AUG 1 1 1924

CLINICAL MEDICINE

Vol. 31, No. 8 AUGUST, 1924

One Word

ONE bitter speech sank in a heart
And there it grew and grew,
Till, like cold ice in crystal pent,
It rent that heart in two.

ONE tender word reached to a soul
Famished for love—far spent;
With faith revived, that soul shed light
Along each path it went.

G. H. C.

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CLINICAL MEDICINE

Dependable Therapeutic Fact for Daily Use

Vol. 31, No. 8 August, 1924

Beverley Robinson (1844-1924)

FOR a number of years, it had been a pet plan of mine to go to New York, some day, and, there, to meet Beverley Robinson, whom I have known long, as I know so many splendid men, through correspondence, but whom an adverse fate never had permitted me to meet in person. For some reason, a trip to New York never materialized. My little traveling was done more toward the setting sun. In consequence, my great wish was never fulfilled. Beverley Robinson died peacefully, as his son informs me, on the morning of June 21st. He had long desired to go to rest. *Requiescat in pace.*

To say that we regret his passing, would be unkind; even wrong. He was old and tired, after over eighty years of a busy, well-spent life. But a year or two ago, he had lost his wife, and he missed her sorely. Times had changed greatly. The habits and customs in which he had grown up and in which he had spent the active period of his life had yielded to others, to which he found it difficult to accustom himself. While trying desperately not to appear a *Laudator temporis acti*—one who praises the "good old times" and compares them with the present, to the disadvantage of the latter, and while he did his best to keep in sympathy with the present, still his thoughts and his preferences were with those times in which he had done his work and made his mark. The modern hurry and intensive strife, the present-day tendencies of medical science, which to his way of thinking failed to do justice to medical art, appeared to him to go too far, to leave out of consideration the actual reason for the existence of physicians; which is, to care for the sick. Medicine had become too objective for him; he deemed that the personal factor was too greatly subordinated to the calm, dispassionate desire for knowledge.

Beverley Robinson was not a Faust. The pursuit of knowledge, for him, had but one reason: namely, to enable him the better to minister to those in need of his services. Therefore, the strictly scientific trend of modern medical research lacked something that should have vivified it, should have

given it a soul. Knowledge for its own sake and without the real purpose behind it, that made it sacred, held no attraction for him.

Yet, he never failed to avail himself of those discoveries and innovations that he felt to be real and worthy of acceptance. Like the true physician that he was, he demanded that such discoveries should prove their worth at the bedside and that they should be worth while.

As a physician and as a teacher, also as a colleague, he was greatly beloved. Those who were privileged to know him personally deeply regretted his disappearance from the hospital and the sick-room. But, they appreciated his never-failing readiness to serve them as a consultant in times of stress and of difficulty where the wisdom of many years could supsupplement the knowledge of the younger practitioner.

This picture was taken on Dr. Robinson's eightieth birthday. The editors of CLINICAL MEDICINE sent a telegram of congratulations. Some of the flowers were sent by Dr. Achard.

To me personally, there is a sense of loss in the thought that never again shall I receive those courteous, cordial, kindly letters and postcards that Doctor Robinson was wont to send to me, commenting upon some editorial article or discussing some paper that had appeared in the reading pages of CLINICAL MEDICINE. There had always been a sort of promise, to myself, that, some day, I would go to him and have a chat about many things. But, mainly, that I would meet him, who stood, to me, for all that is best in the old-time physician, the healer of the sick body and the soother of the sick mind. It is too late. (Hateful word—too late!) And, yet, even those of us who could not know him personally are the better for having known him at all. Truly, he was one of those who, by living in it, have made the world better.

Dr. Beverley Robinson was born in Philadelphia, March 22, 1844, of distinguished Virginia ancestry. Son of the late Moncure Robinson, of Richmond and Philadelphia, the engineer who built the Philadelphia and Reading R. R., and the Richmond, Fredericksburg and Potomac R. R. His mother was a granddaughter of Edmund Randolph, first Attorney General of the United States.

He was graduated from the University of Pennsylvania in 1862.

He joined the Pennsylvania Militia and took part in the Gettysburg campaign. Studied medicine in Paris and graduated with honors — the first American to graduate at the University of Paris. He then studied diseases of the nose and throat under Sir Morrell Mackenzie in London and, upon returning to this country, he started practicing in New York. He married Anna E. Foster, of an old Dutch and Knickerbocker family.

Doctor Robinson was connected with many important New York Hospitals. He was attending and then consulting physician at St. Luke's Hospital for over forty years; being, at the time of his death, the senior consultant. He also had been attending and consulting physician at Charity Hospital, Blackwell's Island (in early days, he used to cross the river on ice in a small boat); attending physician at New York

[*Concluded on p. 516*]

THE POWER OF FAITH

Where there is no vision, the people perish.—Prov. XXIX. 18.

Of the "Great American Desert", Daniel Webster once said: "What do we want with this vast, worthless area? This region of savages and wild beasts, of deserts, of shifting sands and whirling dust, of cactus and prairie dogs? To what use could we ever hope to put these great deserts, or those endless mountain ranges, impenetrable, and covered to their very base with eternal snow?"

Brigham Young and his band of "Latter Day Saints", who first reached the region that is now Salt Lake City in September, 1848, answered Daniel Webster's question, not by words or promises but by deeds and accomplishments. Out of the hopeless, desperate desert, they created a garden spot that blooms like the Rose of Sharon.

To the visitor from the older regions of our country, Salt Lake City, indeed the entire State of Utah, is a revelation. The plan that was followed in laying out Salt Lake City, with its wide streets and its spacious lots, its many parks, bears witness to a foresight and wisdom that has hardly ever been manifested in the building of a great city. The same genius showed its influence in the colonization of the land of the later State of Utah which, from a desert, has been converted into one of the most successful agricultural regions of our country.

The colonization of Utah really commenced on July 23, 1847, when a small company of "Mormon" pioneers made camp on City Creek, near the spot where now one of the largest stores in Salt Lake City is located. That same day, they turned the waters of the mountain stream on to the sun-baked soil, because this could not be ploughed otherwise, and ploughed a few acres of ground. The next day, six acres of potatoes were planted. The day after that, being Sunday, was spent in thanksgiving and prayer and, the following week, ground was picked out, forty acres in size, as the site of the Temple. The Temple grounds now occupy ten acres.

The "Mormons", or Latter Day Saints, as they prefer to be called, thoroughly believe in the biblical injunction: *Ora et labora,* pray and work. Only by indomitable work and effort, by ceaseless exertion could they hope to conquer the desert and to wrest from it a living. That they succeeded is readily seen even on a casual inspection of Salt Lake City and the agricultural parts of the state. Moreover, Utah is great not only agriculturally, but it also has some of the richest deposits of coal and of minerals in the United States; further, it is of considerable importance for its industries.

The vision of the rulers of this interesting state was shown also in the fact that, invariably, one of the first tasks of colonization was the erection of a school house. From the first, Brigham Young asked the people, who were to follow the pioneers to the far west, to bring with them over the plains all the books, maps, charts, and writing material that they could, so that they might have the material for teaching the children. And this has been the public policy ever since, so that illiteracy is hardly encountered in the whole state.

If it is recalled that the colonization of this desert spot and its transformation into a veritable garden and into a wealthy commonwealth owed its inception to that potent desire which in fact gave the impetus to the first settlement of New England, namely, the desire to worship God unhampered by prejudice and in accordance with the dictates of conscience, the stress laid by the Latter Day Saints upon theology, or what they call "correct theology", is readily understood. The Latter Day Saints are orthodox in the usual acceptation of the term, in that they accept the Scriptures as an infallible guide for their action; in addition, they accept "The Book of Mormon" which, they claim, is just as much inspired as the Bible and contains as important teachings.

While insisting upon praying and working, however, and no less upon learning, they do not forget the truth that all work and no play is not good. The opportunities for wholesome amusement were afforded from the first and, in short, the home and community life were made as attractive to the young people as possible, so as to imbue them with a deep love of their own.

Having fled to the desert, because of religious persecution at home, the Latter Day Saints built their homes there. They loved it because of its promise of liberty; because of the freedom that encircles them. They have become a wealthy and successful commonwealth, guided by the vision, the foresight and the broad-minded statesmanship of their rulers.

Compare with that a small colony, also built up in the name of religion, a few miles north of Chicago. The late John Alexander

Dowie founded Zion hoping to gather there the faithful and to guide them into spiritual and temporal prosperity. He placed his main reliance upon the teaching of an orthodox theology that was not only arrogantly narrow and bigoted but also intolerant to a degree. No wonder that his industrial ventures, which at first were so full of promise, failed to record the success that had been anticipated. With his death, his successor, Voliva, went even further and seemingly did his best to shut out all vision, all foresight, all common-sense. The result was inevitable. Where there is no vision, the people perish.

Today, Zion City is a sore spot on the landscape. Its rutty, uneven streets, full of holes, are in sharp contrast to the otherwise well-kept roads of the North Shore. Its neglected houses, its uneducated, discontented people, bigoted and narrow-minded, show the evil consequences of intolerance. Its once promising lace-industry has by no means kept the fair promise of its early days. Why? The reason is obvious. "Pray *and work!* Praying alone does not make man either happy or successful. Good deeds, conscientious work, broad-minded love of one's neighbor are as necessary for "redemption", spiritual and temporal, as is the praying.

We believe in religion; surely, but in the practical religion of work and love of fellow man. We believe in progress in making the best with the gifts that are ours; in making the most of this fair world in which we are placed. Furthermore, we believe in thinking the best possible of our fellows, not the worst possible. Remember? . . .

There is so much bad in the best of us
And so much good in the worst of us,
That it does not become any of us
To talk about the rest of us.

The words may be different in the original—the sense is there.

HALF-BAKED SCIENTISTS

"Anything is justifiable in the interest of science. It is no crime to use a human being in the interest of scientific research. It is no more than impaling a beetle upon a pin." That was the callous opinion expressed by one of the principals in the dreadful Franks murder, which recently shocked the country because of the inhuman cruelty manifested by its perpetrators, and because of their absolute disregard of the rights of others. We have here a terrible manifestation of the arrogance of half-baked science, of almost unlimited erudition and information that has not yet been transmuted into knowledge by experience and observation, that has not resulted in education.

These two young men, not yet twenty, brilliant students and possessing an unusual fund of information, ruined their future prospects by refusing to abide by the laws that the wisdom of generations, nay of ages, had found good to enact. The decalog meant nothing to them, even though a but casual reading of the history of civilization would have taught them that, without laws and without obedience to the law, the commonwealth must perish. They held themselves to be superior to the law, because, forsooth, they were so wonderfully clever. In their greed for further information, to tickle their curiosity, they disregarded the simplest principles, observance of which makes it possible for people to live together in amity and without which the law of might over right must soon bring disruption and destruction.

They believed themselves to be gods, and they were demons.

Young, wealthy, pampered and spoiled by the adulation and admiration of their friends, unrestrained by any sense of right and wrong, these two young beasts of prey constitute a danger to the commonwealth that can not be put down too promptly.

In addition to the misdirected effort of scientific fervor, we have to consider, without a doubt, another danger that threatens and that seems to gain in force rapidly. It is the degeneracy and sexual perversion that is making itself felt on so many occasions. There seems to be no doubt about it that the two had intended to subject young Franks to alleged experiments similar to those that, it is claimed, caused them to attack and injure young Ream, a few months ago. Immediately after the murder, they took out, it seems, two young women who refused to yield to their perverted demands and, thereupon, were incontinently thrown out of the car. Altogether, the newspaper accounts tell a story of seductive actions of depravity and degeneracy that makes one shudder, even though one is inclined to discount a part of the allegations as overdrawn.

It has been asserted that the moral twist in these unhappy young men might have been corrected if their endocrine functions had received attention in earlier life. That may be true. We know that the endocrines play an important role in the mechanism of the emo-

tions. It is by no means beyond the range of possibility that our conceptions of morality, of right, are governed equally. Unfortunately, whatever positive assertions are made in this respect are decidedly premature, since our definite knowledge in that field is unhappily but too scant.

To our every-day, philistine minds, the terrible thing is, in this affair, the apparent contradiction in the perpetration of an atrocious crime by men supposedly unusually well educated. Were they educated? We say, No! Information they had; more than the average college man. Cleverness, brilliancy of mind; all that we attribute to them. But, education? No! If they had been truly educated, they would have been incapable of their acts.

Want of education is not confined to the illiterate. It is found among college men also. And, then, it is more serious than in the ignorant.

The body is like a piano, and happiness is like music. It is needful to have the instrument in good order.—Beecher.

"TOO HAPPY"

The body of a young man was found, recently, with a bullet wound in the head. To the coat, a note was pinned, reading: ". . . I committed suicide because I was too happy. I always got what I wanted, in my life. My parents are millionaires. I realized all that it was humanly possible to. I do not find life good enough to remain in it. I have a strong longing to find out what there is in another life, and I am going away." So far the newspaper account.

What a tragedy! What a pitiful reflection on our present system that permits great wealth to despoil promising youths of the necessity of working and, working, of the chance to search for happiness.

He killed himself because he was too happy? The poor chap did not know what happiness is. Getting everything you want, merely by expressing a wish for it, does not bring happiness; it results in profound boredom and disgust with life. It is work and effort, honest and persistent striving and fighting that will bring the happiness that comes from success and the contentment that crowns attainment. Only those things are worth having that are deserved and are earned by hard work.

Besides, is happiness actually necessary to make a full life, to bring contentment? Our Constitution declares that all men are entitled to "the pursuit of happiness". The attainment of happiness is not promised. Anyway, is happiness ever attained, unalloyed, without a marring shadow? We believe not. If it were, there would be, as a result, even more bored, cloyed, blasé minds than there are now.

This young man belonged to the class, entirely too large for our national good, of the "poor rich children"; the children of millionaires. Why do people seem (so often) to lose their good sense, their sense of proportion, when they have amassed millions? Is not that one reason why large fortunes are so often disseminated again after two or three generations? Is there a law of compensation active here?

Anyway, "too happy"? Poor, unhappy young fool!

The firefly only shines when on the wing; so is it with the mind; when once we rest, we darken.—Bailey.

A TIMELY CONTRIBUTION ON ASTHMA

It is a source of great satisfaction to us to be able to present to our readers, elsewhere in this issue, an article on asthma, which, we feel convinced, merits the utmost attention and study by every conscientious practitioner of medicine.

Its author, Dr. Burton Haseltine, a noted Chicago specialist, neither arrogates to himself all credit for originality nor does he demand absolute control of the problem involved for and by his specialty, but stresses on the need of intelligent cooperation with the general practitioner or internist.

While bronchial asthma is not a clinical entity, it, nevertheless, represents a syndrome of sufficient peculiarity and dignity to be classified as a disease sui generis.

Therapeutically, it has been and still is the *bete noir* of the medical profession. Remedies after remedies have been recommended, tried and discarded, until the average general practitioner was forced to assume a therapeutic policy, vacillating between symptomatic relief and *laissez faire*.

In the constant and uninterrupted search for still undiscovered etiologic factors, asthma, not unlike all other obscure or rather still unexplained pathologic phenomena of physiology —a term we use advisedly—came in for its share of benevolent theorization.

We have been fed up with anaphylaxis, allergy, toxicoses and what not, until the soldier in the field, he that expects his definite tactical instructions from the strategic leaders, stood

on the firing line bewildered, not knowing what to do and compelled to fall back on his own exceedingly restricted resources.

Doctor Haseltine's contribution, on the other hand, comes like a refreshing breeze on a sultry day, carrying convincingly a message of hope, because it is not only built upon what seems certain to be a sane and rational basis but because it also bears the only stamp of genuineness that counts—actual clinical experience.

Actual clinical experience must precede all theories, for, all academic reasonings stand or fall on clinical tests.

If, therefore, the experience of others will confirm that reported by Doctor Haseltine and his coworkers, we shall acclaim their work as a scientific advance of tremendous value.

[*Concluded from page 512*]

Hospital; Professor of Clinical Medicine at Bellevue; one of the founders of the Association of American Physicians; former President of the American Climatological Association, and a member of many other societies.

During the World War, he was one of the six American physicians to receive an honorary medal from the Faculty of Medicine of Paris.

He was a member of the Century and University Clubs, and the George Washington Post, G. A. R.

He was a brother of the late John M. Robinson, president of the Old Dominion S. S. Line, Seaboard Air Line, and other southern railroads, and of the late Edmund Randolph Robinson, lawyer of New York.

He is survived by three sisters: Mrs. Charles Chauncey, Mrs. A. Sydney Biddle and Mrs. Henry C. Boyer, and by three children, Miss Pauline Robinson, Mrs. Arthur W. Butler and Beverley R. Robinson.

DIAGNOSTIC STUDY OF DEMENTIA PRÆCOX

Doctor Murray's essay on the desiderata of and necessity for a careful diagnostic study of all patients suspected of dementia præcox may be a little difficult to understand, on first reading. We opine that most of our readers will find it necessary to read many of the passages more than once, in order to arrive at an exact understanding. That is just what happened to us. However, the subject is of such great importance, and it is so patently necessary for the general practitioner to possess at least a fair working knowledge of the diagnostic requisites for the recognition of that serious malady, that the article in question was printed despite the difficulties attending its study.

In itself, we do not admit that a necessity of having to read a passage or a whole article twice is a disadvantage. Things that come easily usually are not worth so very much. What we have to work for most, often, is most valuable. These assertions may be trite. Nevertheless, they are based on fact.

As for Dr. Murray's discussion itself, concerning the need of exact diagnosis of dementia præcox and concerning the various factors making up that diagnosis, we venture to say that no physician will care to disagree with the author. For some unfortunate reason, dementia præcox seems to be becoming more frequent than it was of yore. All the greater the necessity to combat it with every means at our command. We can not fight a danger unless we can recognize it. Hence, the need of being able to make an exact diagnosis. The article appears on p. 519.

We must be as courteous to a man as we are to a picture, which we are willing to give the advan- of a good light.—Emerson.

WANTED: A GOOD, OLD-FASHIONED FAMILY PHYSICIAN

In the abstract department of this issue of CLINICAL MEDICINE (p. 586), an article is reproduced that was lifted verbatim from *Endocrinology* for May, last (page 459) and concerns a woman, 44 years old, who had passed through rather more than the regulation series of vicissitudes in the offices of unnumbered doctors. She had acquired a liking for outlandish and bizarre methods of treatment and had come to "enjoy poor health" as an interesting occupation.

Dr. W. W. Babcock (Philadelphia), in discussing this patient's case, remarked on the large proportion of this class of cases that presents a family history or a contact history of tuberculosis. In many of them, the thoracic and mesenteric lymph nodes are enlarged and the patients react to tuberculin. Doctor Babcock adds that a large percentage of socalled neurotic patients are suffering from a chronic mild form of tuberculous toxemia. They are in need not so much of fancy treatments, from orificial surgery down to Abrams or Rogers, as rather of a sensible mode of living, with rest, proper feeding (not *over*feeding, as Doctor Babcock suggests!), fresh air, electricity and elimination of excitement.

In the opinion of Doctor Babcock, what this

sort of patient needs most is a good old-fashioned family physician who will advise and protect her and keep her out of surgical clinics, and especially out of group clinics. He has observed the best results following the use of tuberculin and an antituberculosis régime.

Very true. Unfortunately, it is exactly this type of patient that will not stay put, utterly refuses to abide by the orders and advice of the family physician and that ever hankers after the newest in treatment that may be dangled before her imagination, no matter how inapplicable it may be for her. And, often, it is a *he* who is just as foolish, as obstreperous, as impossible of guidance. A male neurotic is even harder to handle than the one of the gentle sex.

The observation, that in many of these patients the basis of the trouble is to be found in a chronic, occult tuberculous toxemia, has been justified in a considerable number of cases. Some years ago, this present writer, presented a paper before the Chicago Academy of Medicine, in which the subject of occult tuberculosis was developed in some detail, and it was shown that a great many cases that have been passed from one physician to another, that never seemed to lead to a solution and that never came nearer to recovery, were ultimately found to be based upon just that sort of thing, namely, an occult tubercle-bacillus infection which had not progressed sufficiently far to develop more than a latent tuberculous focus but from which a constant supply of toxins was delivered into the circulation that played havoc with the nervous system and with the mentality of the patients.

The reason why most physicians fail to recognize the true nature of the problem is, that they do not look near enough. They do not think of the obvious; they prefer unusual and difficult disease problems to common, everyday tasks that do not call for any remarkable surgical and specialistic skill but are solved nicely through the exercise of (just) good sense. The acquirement of good sense is something that might be fostered with greater care. Only this morning, as this editorial is being written, a friend said to the writer that, in his opinion, the number of people with "normal" sense, qualitatively and quantitatively, is in the minority. We had just been watching a particularly bad specimen of bone-headed work. "Hence these tears."

Common sense in treating the sick—a rare and precious remedy. It will bring results when unusual and difficult methods will fail.

However, the difficulty is, to impress the patients with the necessity of it; to prove to them that their own particular affliction is difficult not because it is unusual or remarkable but simply because they, themselves, refuse to accept the truth from their medical advisers, because they do not want to get well, because they rather like the interest that their constant ailing arouses in their gossips—to their faces. Behind their backs, to be sure, they are called various names. However, once the physician has recognized the nature of an ailment and is sure of himself, he will usually manage to impress a recognition of the truth upon his patients, even those who refuse to accept the simple; even the snobs among the sick.

There is nothing in the world so much admired as a man who knows how to bear happiness.—Seneca.

PLEASE BITE!

This is the time of year when many of our good doctor friends go fishing. We have decided to go fishing, too. We want to drag our hook across your stream of thought to see if we can get a strike.

We are anxious to get fish (articles, letters, etc.), any size or shape. We can use them all and shall be happy to serve them to the CLINICAL MEDICINE family.

We ask you not to be selfish, but help us have a good time fishing.

ATTENTION—FORMER ILLINOIS DOCTORS—ATTENTION

Under the above caption we have received an announcement, from Dr. Charles J. Whalen, editor of the *Illinois Medical Journal*, which we are reprinting herewith:

"Will any and all doctors, former residents of Illinois, or descendants of pioneer physicians of the 'Illinois country', communicate at once with the Committee on Medical History, Illinois State Medical Society, No. 6244 North Campbell Avenue, Chicago, Illinois?

"Under the sponsorship of the Illinois State Medical Society there is in preparation 'A History of Medical Practice in the State of Illinois' that must go to the printer at an early date. In order that this volume may be accu-

rate and complete, all possible assistance is asked from every source, as to personal data and experiences, including diaries, photographs and similar documentary momentoes of pioneer Illinois doctors and of progressive phases of medical practice, as well as of achievements in fields other than those of medical science. Prompt return in good condition is promised for anything loaned the committee, the personnel of which is:

"O. B. Will, M. D., Peoria, Ill.
"C. B. Johnson, M. D., Champaign, Ill.
"Carl E. Black, M. D., Jacksonville, Ill.
"George A. Dicus, M. D., Streator, Ill.
"James H. Hutton, M. D., Chicago, Ill.
"Chas. J. Whalen, M D, Chicago Ill., chairman.

"The scope of the volume will range from the discovery of Illinois to modern times. Through this period of over 250 years there is much of thrilling interest to be detailed. Collection of the human interest data can come only from the families or closest friends of the pioneers, many of whom long ago removed to distant sections of the United States. Through the kindness of editors of various medical journals, it is hoped to reach those who may be able to loan valuable material to the compilers who guarantee careful guardianship of anything sent for publication.

"Some of the subjects touched will be: Physicians accompanying early explorers; government surgeons and physicians in attendance at the forts; early medicine in Illinois; theories of healing from the days of the Aborigines through the mound-builders; French and English explorers; the ante-boundary days; sporadic settlers; medical attendants for the covered wagon; herb doctors; primitive surgery; medicine and missionaries; migration of pioneer physicians to new territory; the 'circuit-riding' and 'saddle-bag' doctors and their burdens, triumphs and perils; pioneers as 'utility citizens'; Illinois men in war time—there are four conflicts to be considered since the opening of the Nineteenth Century; Illinois medical men away from medicine, i. e., in industry, in science, in belles-lettres—art, music and literature.

"Photographs especially are desired. Also copies of letters, statements of 'cures' and 'new methods', diaries and the like."

[We know there must be many such documents and photographs as the committee is trying to secure, stored away in attics and in old family albums. One of the things for which Doctor Whalen has asked us, for instance, is a good picture of a saddle-bag doctor. We hope that if any of our readers can contribute to this interesting work they will do so. The address of the committee is 6244 N. Campbell Ave., Chicago.—Ed.]

INCOMPATIBLES

In another column (p. 585) is briefly summarized an excellent article on drug incompatibility, which is well worth a careful perusal. Every practitioner has had experience with mixtures, which, although therapeutically sound, are nevertheless quite objectionable because of some chemical or physical incompatibility, making their use undesirable or even dangerous.

There being thousands of such cases, it is impossible to list and catalog them, and all that can be done is to classify them somewhat according to type so that the physician may draw upon this knowledge and his experience in writing his prescriptions. Incompatibilities are often not immediately obvious, as is illustrated by the following case cited by May:

Liq. morphinae	1 oz.
Lip. atropinae sulph	20 minims.
Spt. ammon. aromat.	4 dr.
Spt. chlorof.	6 dr.
Aqua ad.	6 oz.

In this case, the salts cause separation of some of the chloroform as a bottom layer, and the spt. ammon. aromat. sets free the alkaloids from their salts. As the free alkaloids are far more soluble in chloroform than in water, they are extracted by the former, and are therefore concentrated in the bottom chloroform layer. Unless the bottle is well shaken before each dose, there is a possibility of the last dose containing a fatal quantity of alkaloids.

Ordinarily, however, incompatibilities may be forecast by consideration of the simpler chemical reactions of the components of the mixtures. Such prediction may be made with more certainty since the chemical characteristics of naturally occurring drugs have been determined, and since a large number of definite synthetic medicinals have come into use.

Leading Articles

Bronchial Asthma

By BURTON HASELTINE, M. D., F. A. C. S., Chicago

IN accepting the invitation of the Editor of CLINICAL MEDICINE to write on the subject of Bronchial Asthma, I shall depart somewhat from our usual routine in preparing medical papers. I shall not review the literature or publish a bibliography. I have in my possession more than four hundred articles, complete or in abstract, covering the literature of asthma in all languages for the past ten years. I have all the leading textbooks upon the subject available to English, French, German and Italian readers.

There is not, in all this literature, anything approaching a satisfactory conception as to the etiology, pathology, or essential nature of the affliction known as bronchial asthma. There is not, in all this literature, any outlined plan or method enabling the clinician to approach his patient with any certainty of success in his efforts to give permanent relief. There is not, in all this literature, any report of clinical results from any method or procedure enabling the physician to employ it with any better excuse than: "It seems to have helped some cases" or "We know of nothing better." The theories and procedures of only a few years ago are now obviously fantastic. Most of those now in vogue, without the protecting psychology of fashion, would appear equally so.

There is one conception as to the nature of bronchial asthma against which none of the above-mentioned indictments can lie. It does furnish a satisfactory explanation as to the etiology and the true nature of the asthma syndrome. It does enable the clinician to promise and obtain satisfactory results in the great majority of his cases. It does not appear fantastic with the lapse of time but, with wider application, seems more and more dependable. It has been before the medical profession in a limited way for eleven years.

(*The Clinique*, Chicago, Feb. 1913; *Journ. Ophthal., Otol., and Laryng.*, Philadelphia, Jan., 1915.) (*Ibid.*, Jan., 1921.)

Since January, 1921, both the hypothesis and the methods suggested have been rather severely tested by a considerable number of clinicians and, in all cases, results have far exceeded those obtainable by other measures. In previous publications*, this conception has been rather fully set forth, but a brief restatement at this time is necessary:

The Conception of Asthma

The clinical phenomenon known as bronchospasm consists essentially of a spasm of the musculature of the small bronchioles. Accepting this as true, we now ask, what in its essential nature is a spasm? It is an exaggeration, prolongation or other abnormal modification of a normal reflex. This means, it is primarily an affair of the nervous system and is functional rather than structural in its inception. It is of the utmost importance that this point be clearly understood—it means that a functional disturbance precedes any structural change; hence all examination of pathological tissue, ante- or post-mortem, is the study of a result and not a cause.

If a spasm is a modification of a normal reflex, then the structures necessary for its production are the same as for the production of the reflex; namely, a peripheral sensory organ, an afferent nerve, a central nucleus or nuclei, an efferent nerve and an end-organ such as a muscle fiber in which the final result is manifested. It must be remembered that the sensory receiving structure is often anatomically remote from the muscle or other organ in which the final result is shown.

Next, let us consider what conditions may produce this exaggeration of a normal reflex which we call a spasm. There are three. First, direct trauma or damage to the central nervous system from localized disease. This may be omitted from our present discussion.

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*Eye, Ear, Nose and Throat Monthly, Chicago, May, 1923; *Medical Times*, New York, March, 1924.

The two factors essential to the production of a non-traumatic spasm are: First, the acute or chronic exposure of the central nervous system to the action of a poison (toxin). This poison may be exogenous or endogenous, single or multiple, bacterial or non-bacterial. Second, an abnormally irritable peripheral sensory organ.

In the particular spasm known as an attack of bronchial asthma, the two producing factors are:

1.—A highly toxic condition, chronic in nature, vaguely recognized under various names, but present in all cases. (Toxemia, anaphylaxis, allergy, "atopy," acidemia, sensitized state, etc.)

2.—An abnormally irritable peripheral sensory organ which, in this case, is *the ethmoid area of the nose.*

This toxic state may result from many causes, but it is always an improper balance between the absorption of toxic materials and the physiological elimination of them. This is no vague mental conception—it means that the patient is in a perfectly diagnosable, abnormal state presenting certain pathognomonic signs before he ever has a bronchospasm. He is an asthmatic long before he has the attack which puts the label on him. The asthmatic crisis is a toxic storm, an explosion, and it occurs when the machinery of elimination is no longer equal to the load put upon it. The trigger which initiates the explosion is in the ethmoid area—the region to which has been given the very apt name of the asthmogenic zone.

For a clear understanding of this concept, a certain refinement of terminology is essential. We must distinguish between the term asthma and the term bronchospasm. To the question: Is asthma a symptom or a disease? we answer: It is neither. Asthma is an abnormal bodily state manifested by various symptoms such as: urticarias, eczemas, eosinophilia, cyclic vomiting, protein- or non-protein-sensitization, disturbed calcium- or endocrine-metabolism, hyperesthetic rhinitis, angioneurotic edema, acidemia, mucous-membrane hyperesthesia (hayfever) to which may or may not be added bronchospasm.

This last symptom, when it does occur, so dominates the clinical picture that both the lay and the medical mind are somewhat hypnotized by it. It is now for the first time recognized as only the climax to a rather definite sequence of abnormal manifestations. It occurs only when general toxicity reaches a certain stage and when ethmoid irritation becomes sufficient to incite the spasm.

The asthmatic patient is in a constant state of delicate balance between absorption and elimination. Anything that helps to throw the balance the right way will relieve him; anything throwing it the wrong way will increase his distress. The asthmatic patient has an abnormal ethmoid. *Anything that lessens ethmoid pathology will relieve him; anything that increases ethmoid pathology will increase his distress.*

The reflex arc which makes this spasm possible is formed by the connection between the trigeminal sensory nucleus and the nucleus ambiguus and the dorsal nucleus of the ascending-vagus root. These are well recognized anatomical connections and can be confirmed by reference to any textbook on the anatomy of the central nervous system. It is through this arc that is produced the normal sneeze or cough from irritation of the ethmoid, and it is probable that by this same mechanism is produced the wave of contraction of the bronchiolar muscle fibers that has been shown to occur in normal respiration. These reflexes would appear to be the physiological analog of the bronchospasm. It is not necessary to speculate regarding the peripheral area concerned in the production of bronchospasm. It can be demonstrated in almost any susceptible individual.

Two other elements begin early to play a part in every asthma patient; one is the habit factor; how important, no one can say, but probably more and more predisposing him to these explosions. The other is the occurrence of those tissue changes in the lungs and bronchi which must result from such ordeals —changes which, originally secondary, may play a highly important role in later stages.

It is indeed these late thoracic changes which have so engrossed the attention of pathologists that they have missed both the essential factors in the etiology of asthma. It is not an accident that the rhinologist has gone farther than the pathologist in the solution of this problem. By a combination of circumstances readily understood, it is a clinical fact that the ethmoid labyrinth may be and frequently is, both the source of toxic absorption (or one of its sources) and the exciting end organ.

The importance of the rhinologist's role in asthma is thus apparent and it becomes clearly defined. This is a distinctly new and highly significant addition to our knowledge of the

subject. Many men have many times discussed the relation of nasal pathology to bronchial asthma and most practitioners have seen some cases greatly helped by some form of nasal treatment. But, regarding the question of how to determine which cases call for nasal treatment or what form of treatment should be given, there still exists in the minds of doctors nothing but conjecture and confusion. Such conjecture and confusion is no longer necessary.

By the intelligent application of the principles here outlined the skilled internist and rhinologist, working in cooperation, can predict and obtain results in bronchial asthma with as much precision and as much success as in any of what are called the solved problems of medical practice.

The Origin and Development of the Conception

The completion of this conception and its clinical application has been the work of no one man. Without the constructive suggestions and clinical help of my colleagues very little could have been accomplished. One of the first to become interested in the subject was Doctor Alonzo C. Tenney, whose criticism from the standpoint of general pathology was most helpful. The studies made by Doctor Gilbert Fitz-Patrick, of the endocrine functions in women and his treatment of pelvic pathology in asthmatics, have helped to solve some of our most difficult problems. The interpretation of urinary findings made by Doctor Clifford Mitchell has become in many cases indispensable. For our present understanding of the relation between toxic states and endocrine dysfunction and for refinement of methods for detoxication, we are indebted above all others to Doctor A. H. Waterman. Doctor Waterman has also added greatly to our understanding of the connection between ethmoid pathology and conditions unrelated to the nose. It has been under his direction that some of our earliest and hence most long lasting clinical results have been obtained.

For the final rounding out of our conception of the asthma syndrome and for further clinical proofs of its correctness we are especially indebted to Doctor A. W. La Forge. With our first postulates as a working basis, Doctor La Forge has made original observations in striking confirmation of them. One instance is his discovery that bronchospasm is in many cases to some extent unilateral. The importance of this is, that there is a direct relationship between the one-sidedness of the bronchospasm and the one-sidedness of the ethmoid pathology. It is rare, of course, to find either entirely unilateral, but a one-sided preponderance is common and, in every case where a difference in spasm can be noted, it is found severest and more prolonged on the side of greatest nasal pathology.

Other Theories Compared

Let us now consider some of the theories and methods still extant in their relation to the conception we have outlined. All of the older notions based upon study of thoracic tissue changes are obviously discarded, since they are mistaking results for causes and relatively late results at that.

The endocrinologists have discovered some facts about asthma and have come near to explaining some etiological factors, but they, too, appear to be confusing effects with causes. There is a frequent relationship between endocrine dysfunction and bronchospasm, and benefit often results from treatment for the correction of the endocrine imbalance. But, with increasing experience, we have come to regard the endocrine disturbance as a result of the toxic state rather than the cause of it and to depend more upon detoxication than upon endocrine therapy *per se.*

It now seems that the best authorities upon endocrinology are approaching our conclusions. Doctor William Lintz, Clinical Professor of Medicine in Long Island College Hospital, in a recent address upon bronchial asthma, spoke as follows: "The manner of action of the endocrines, however, lies in the realm of theory and speculation. What we want is experimental proof in this direction and, so far, none has been forthcoming. If one will attempt to cure or even relieve asthma by endocrine therapy, he will meet with disappointment. I state this as a result of actual trial in a large number of cases."

Perhaps this observer failed because he did not, like some investigators, assist his treatment with other "not-worth-mentioning" procedures. A more optimistic opinion and one based on a wider cognizance of all factors involved is expressed by Doctor Maximilian Kern, of Chicago, a well-known authority upon endocrinology. In the *Journal of Ophthalmology, Otology and Laryngology,* (Philadelphia, May, 1924), Doctor Kern says: "In a recent article on organotherapy, I pointed out that the thyroid and parathyroid played an important role in asthma. The parathyroids are now recognized as detoxicating agents and the therapy of parathyroid sub-

stance would seem to have an important place in the treatment of asthma."

The recent French theories of hypervagotonus, or sympathetico-vagotonus (Lian, in *La Presse Médicale,* Dec., 1921—and Galup, *ibidem,* June, 1923) approached a little nearer to the truth, but they unhappily headed into a culdesac and, like Omar of old, came out by that same door wherein they went. The reason for this is, they began by tracing the reflex backward from result to cause, only getting as far as the vagus nuclei, where they lost the trail.

Hypersensitiveness

The theory of anaphylaxis, as originally advanced and for a time accepted as explaining the phenomena of asthma, has now been made over into what is known as the allergic theory. We are now told that the term anaphylaxis should only be applied to an abnormal sensitization artificially produced. But this restricted application may be misleading and even dangerous, for we often meet cases in which anaphylaxis has been unintentionally and unknowingly induced by drugging and in which further attempts at desensitization by methods now in vogue produce most unhappy consequences.

Coke states in his recent book that forty deaths have been reported from this cause, while many less serious unfavorable reactions have of course been noted. When the doctor meets disaster in these circumstances and sorely needs the anaphylaxis alibi, it isn't fair to cut him off with the statement that anaphylaxis is only produced in the laboratory. He must be taught that the asthmatic patient is carrying a toxic load already straining his capacity. The deliberate addition of more toxic substances to that load is illogical, unscientific and dangerous. Regardless of *a priori* judgment, it could not be condemned if justified by results, but the best claims made for it are not such as we would consider a recommendation for any form of treatment. Even the term "protein sensitization" can no longer apply, since about an equal number of offending substances are found among nonproteins.

If we are to use the very latest and most accepted style of nomenclature, we must of course speak of the phenomena of allergy. It may seem surprising that we speak with a tinge of facetiousness concerning these (for the moment) highly respected theories. There should be no misunderstanding on this point. We follow with deep interest the work of all who are studying the phenomena of allergic reaction, and we watch closely the results of treatment by their methods. We are in a peculiar position to see such results, because nearly all the patients who consult us have had expert treatment by those methods before we see them. In a few instances, where such methods had not been employed, we have sent patients to experts for a course of vaccine therapy before accepting them for treatment. All such cases have returned to us unimproved and been relieved by other measures.

If you will make it your custom, as we do, wherever possible, to obtain all the facts in every case of reported improvement from vaccine or serum therapy, you will reach this conclusion: That good results from such treatment are in exact proportion to the skill and thoroughness with which *other things are done.* We have found no exception to this. Every case we have investigated, where marked or lasting results were reported as due to food or bacterial vaccines, serums, pollen injections, calcium injections or endocrine therapy, has been found to have had nasal treatment, surgical or nonsurgical, or removal of other infective foci, or correction of faulty elimination, intestinal or otherwise. It would be surprising if good results were not obtained by such measures with or without the use of specific medication.

We admire the sincere and laborious work done by these investigators, but admiration for their zeal must not blind us to the meagerness of their achievement. If we had nothing better, we would gratefully use the small modicum of help they have been able to give us. But, we were obtaining results far better than they have even claimed long before the allergic theory was conceived. We find no fault with the most elaborate system of sensitization tests as an experimental search for knowledge, but, in the treatment of the asthmatic patient, it is a useless and harmful waste of time.

The Toxic State

We clearly recognize the state of hypersensitiveness, and we have described it under another name as an essential factor. The great point is, that there is one underlying condition that is basic—the toxic state we have described—and, when this toxic state is corrected by suitable treatment, *all* forms of sensitization disappear. The uselessness of all this testing and tinkering with symptoms, where the basic cause can be removed, is sufficiently obvious.

We have had patients suffering from almost every conceivable form of sensitization; foods,

such as eggs, tomatoes, cabbage, oatmeal, wheat, corn, beefsteak; powders, such as sachet; drugs (especially aspirin); serums—who after treatment (nonserum) were immune to all previously exciting substances. They are permitted to eat the offending foods, fondle cats, ride horses, sleep on feathers and powder their noses without any restrictions whatsoever.

If you can do no better, it is proper of course to determine as many as possible of the offending materials and protect the patient from them. It is permissible perhaps, where this can be done, to let the patient call himself cured, but one should not offend our medical intelligence by employing this term. If you had a patient with an eye so sensitive that he could not bear the faintest ray of light, you would quite properly confine him in a dark room, and in all other ways protect him, but you would not report him as cured while the eye remained in that condition.

Calcium Deficiency

An interesting study regarding calcium deficiency in asthma has recently been made by Novak and Hollender, of Chicago. They have observed a deficiency in the calcium content of the blood in six out of twelve asthma cases studied and in almost one hundred percent of about ninety allergic patients of the nonasthmatic type.

Benefit has resulted from raising the calcium content in all cases where it was found low. If these observations are supported by experience, it may add a still further refinement to our technic in estimating and controlling the balance between infection and resistance. Unhappily, these investigators are open to the same criticism heretofore mentioned. The evidential value of their reports is nullified by their failure to give credit to other measures, admittedly employed, and to which the good results may with equal or greater plausibility be ascribed. We have long recognized that a calcium deficiency is a frequent condition in all chronic infections and have used calcium therapy in many cases, but the curability of any case in no way depends upon the presence or absence of this finding.

Asthma Therapy Depends on Cooperation of Internist and Rhinologist

It becomes clear from this outline that the successful treatment of any given case of asthma is no easy undertaking and that it is never a one-man job. The internist and the rhinologist must work in perfect and continuous cooperation. Some cases will severely tax the skill of both.

The internist's problem is, to find and remove every source of toxic absorption and restore the normal physiology of elimination by the best measures available. Every asthma case is curable exactly in proportion to the completeness and permanency with which these two things can be accomplished, allowing always for structural damage already present. In young patients, even structural damage will to some extent disappear. We naturally regard the child with chronic emphysema, thoracic deformity or myocardial damage as crippled for life. But, since it has become possible to obtain permanent relief of bronchospasm in these patients, a more hopeful view is justified. In all our cases in children, after a year or two of freedom from attacks, the emphysema has disappeared, the thoracic deformity improved and the heart function returned to normal.

We are often asked about relapses and what prognosis can be made for the patient who returns with bronchospasm after several years of freedom from it. We have met this situation several times. The answer is: A return of the same conditions will produce the same symptoms and their removal will obtain the same results, allowing, of course, for the increased age of the patient and other individual factors. In our cases, it has been easier to obtain relief the second time than the first. The most skillful service in any department of medicine, surgery, or dentistry may be required in every case. The most skillful service in the department of rhinology is required in every case. Every asthmatic patient is a rhinological patient and the resources of the ordinarily skilled rhinologist are not sufficient. He must have some special training in this field.

Rhinologic Treatment

This part of the problem is met, first, by careful determination of the amount of pathology present in the nose and paranasal structures, especially the ethmoid labyrinth. This may require repeated examinations and the subjection of the patient to a few measures which we call diagnostic treatments. X-ray pictures are of course made, usually including the teeth, which are often a contributing factor. But, in the ethmoid, we are dealing with a location and with a type of pathology in which the x-ray gives very little help.

Surgical conditions, when found, are treated by well-known methods; but surgery is not

our only resource and operations of the radical type are rarely necessary. Ethmoid blocking must be relieved, whether it be from septal deformity, adventitious growths or hyperplastic disease. Following the removal of mechanical obstruction, we have a resource of tremendous value in the method called the Dowling treatment, introduced to the profession by Doctor J. I. Dowling, of Albany, N. Y., some twenty years ago. This treatment is not generally known to rhinologists, which is unfortunate, because all who have mastered its technic agree that it is the most valuable nonsurgical procedure ever given us. It differs from all other methods of treating mucous-membrane infections in that it is not a surface treatment, but depends upon infiltrating the submucous tissues with a colloidal silver solution of suitable specific gravity to penetrate the mucous-membrane by osmosis and be distributed far beyond the available surface area. By this method, we obtain some of our most pronounced and lasting results. It has led us to discard all suction and irrigation treatments formerly employed. It is this chiefly that enables us to avoid entirely the palliative use of cocaine, adrenaline and similar drugs, which is much too common in rhinological practice. I cannot too emphatically express my disapproval of the repeated use of strong cocaine solution as a routine treatment, now advocated and practiced by certain prominent rhinologists.

The use of cocaine or any similar drug, except for surgical purposes, is unknown in my practice and I can relieve any distress from a rhinological cause that is amenable to cocaine treatment. Let it be understood, then, that, when we relieve our asthma cases, we are not doping them either locally or generally. Even the hypodermic use of adrenaline, to control the attack, becomes unnecessary usually in a short time.

A number of case reports are appended, each one illustrating one of the socalled types of bronchial asthma. The final report on each case is, wherever possible, made by the same physicians who examined the patient previous to beginning treatment. It will be noted that the tests used and the nomenclature employed vary according to the theories in vogue at the period when the case presented.

Case Reports

Case reported by Doctor Theodore Proxmire, of Lake Forest.

Mrs. J. C., Aet. 23 when she first consulted in 1914. Early history negative until age of two, when she had an attack of measles with severe bronchitis; after this, had very severe bronchitis every winter, though not during summer. She had what was called nasal catarrh, both summer and winter, since two years of age.

At age of four, was taken to California until age of seven, where she was much better and became immediately worse on return from California, when bronchitis became continuous summer and winter until the age of fourteen. During all this time, there apparently was no bronchospasm but simple bronchitis.

At age of fourteen, hayfever and asthma developed in June and continued from June until late fall, then simple bronchitis from fall until June, until the age of twenty when she returned to California, on account of her condition. She remained in California one year, free from asthma and bronchitis, and gained forty pounds, bringing her up to normal weight; then returned from California and again had asthma and hayfever very badly. At this time, the middle turbinates were removed and nose treated by rhinologist all summer, with very little improvement. She was told by her physician that she could only be relieved by returning to California. I am indebted for this information to Doctor Norman Bridge, formerly Professor of Medicine, Rush Medical College, Chicago, who had general charge of this patient during all these years and who also believed that she should continue to live in California.

When the patient was twenty-three, I first saw her in a severe attack of bronchospasm which required morphine hypodermatically for its relief. Patient gave her history as related, stating also that she had never been able to play outdoor games, swim, walk any distance, and that dust of any kind caused attacks immediately. She was in a state of mental depression that gave her family serious concern.

I began treatment with vaccines (stock) suited to her case, at the age of twenty-three (ten years ago), gave ½ Cc. and had a terrific anaphylactic reaction. The family refused to have more vaccines without consultation with Doctor Bridge. This was obtained and, with his approval, they were resumed—starting with ¼ Cc. and increasing to as much as 3 Cc. every three or four days, with marked improvement in every respect. In two years, she could swim, play tennis, take lively walks, etc., but with frequent and severe attacks of bronchospasm still recurring regularly. More-

over, vaccine could not be stopped without the whole picture looming up again. This lasted for a period of six years.

In the autumn of 1920, a severe acute sinus infection flared up with excruciating headaches and severe bronchospasm, which caused me to send patient to Doctor Haseltine. He reported that the patient had bilateral chronic purulent ethmoiditis and advised radical operation, saying it would probably stop the attacks of bronchospasm. The operation was done in two stages followed by treatment (Dowling method) for two months, during which time she had no attack. The treatment was interrupted by the patient's returning to California, and, a short time after arriving there, she had a severe bronchospasm followed by acute pneumonia. As soon as she recovered from the pneumonia, she returned to Lake Forest where treatment was resumed, both with vaccines and nasal tampons. She soon ceased to have bronchospasm and returned to normal health. She was kept under close observation with treatments lessening in frequency for about one year, when they were discontinued. Patient has now been in normal health without treatment for two and one-half years. Her "nasal catarrh" has entirely disappeared.

Comment: "Good results from such (vaccine) treatment are in exact proportion to the skill and thoroughness with which *other things are done.*"—B. H.

Case reported by Doctor Alonzo H. Waterman, Chicago:

Mrs. F., aged 37, a business woman, first consulted in November, 1915, at which time she stated that she was unable to attend to her work in an efficient manner, owing to her physical condition and especially to the repeated attacks of hayfever. She stated that she had lost twenty-five pounds in the preceding year.

Family history irrelevant except that father was a periodic alcoholic. Patient's history was negative except for diseases of childhood and some continued fever at fourteen years of age, which lasted all one summer; but no diagnosis was made except fever. Constipation for years. Colds in head frequent. Tonsillitis frequent during childhood, but no attacks since thirty years of age. Acne vulgaris since childhood. Urticaria at various times. Attacks of hayfever first noticed six years ago, gradually growing worse and more frequent; at first only in August, then May and August. An operation on the nose, to correct a deformed septum, was performed in 1914 and vaccines were given by one of the recognized authorities in Chicago, but no relief experienced—in fact, patient was quite positive that her condition had been growing worse subsequent to the vaccines. Recently, an attack would be brought on in the presence of flowers of any sort, and she could use no face powder without having severe symptoms. House dust of any kind would likewise be a cause for suffering.

Examination showed a pale, emaciated (90 lbs.), extremely nervous woman of the asthenic type. Palpitation and a fine muscular tremor were present. Blood pressure was 80 to 100 m.m. There showed a severe acne vulgaris on the face and back. Examination of the nose showed a chronic ethmoiditis, bilateral. Further findings were simple anemia, retroverted, fibrous uterus, hemorrhoids, and chronic appendix with multiple adhesions.

While this patient was in the hospital, she passed a large membrane which upon examination proved to be a mucous cast of the colon. From her history, she had for many years been a sufferer from membranous enteritis. In every way, this patient showed a highly toxic state. All laboratory findings were negative except for excessive indican and high acidity, the simple anemia and slight eosinophilia (5%).

Elimination and rest were employed for her general condition. Later, a radical operation on the ethmoid was performed by Doctor Haseltine which he had at first been reluctant to do even with the pathology present, because of his uncertainty as to the result to be obtained. Since the ethmoid operation, the patient has had no attacks of hayfever and none of her former symptoms. The patient's general health did not show marked improvement until the remaining pathology was corrected (hysterectomy, appendectomy and operation for hemorrhoids). The tonsils were not removed, as they showed no positive pathology and had given no trouble for seven years.

In June, 1920, this patient weighed 150 pounds and had no presenting symptoms. In November, 1923, this patient was presented at the clinic at Henrotin Hospital, held for the Clinical Congress of Surgeons, at which time she stated that she had had no symptoms of hayfever and that she could come in contact with flowers, house dust, and was using face powder, taking motor trips, never giving any

thought to avoiding irritating substances. In the past six months, she has enjoyed the best health of all.

Comment: This patient had been in a general toxic state for years and had expressed this condition by the acne vulgaris, urticaria, frequent colds, hayfever, anemia, nervous symptoms and emaciation. She had had a satisfactory operation on the nose for the correction of the septal deformity but the hayfever continued. Vaccines had been given, but the hayfever continued to increase in severity.

All symptoms of hayfever disappeared after radical operation on the ethmoid. Patient's general condition did not improve until all pathology was removed and metabolism returned to normal. The patient required the services of the expert rhinologist, the general surgeon and the internist.

This patient was sensitive to proteins and pollens but, when pathology was removed, the sensitiveness to foreign substance disappeared.

In every case of infection or faulty metabolism, the endocrine glands are undoubtedly functioning in an abnormal manner, but glandular therapy will not cure the condition. Removing infection and correcting metabolism permits the endocrine glands (if not destroyed) to resume their normal function.

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Case reported by Doctor Paul Hohly, Toledo, Ohio:

Paul Charles Hohly, age nine, normal spontaneous birth, breast-fed until nine months of age, when he weaned himself. At six months of age, had scarlatina with fever for two days; no complications. At eighteen months of age, began to vomit, apparently without any reason. A thorough examination by competent physicians and children's specialists revealed nothing abnormal except that he had enlarged tonsils and some adenoid tissue. His vomiting would occur during or soon after a meal, especially if he would run or play vigorously. A diagnosis of cyclic vomiting was made and he was given three drops of a solution of atropine sulphate, 1 grain to the ounce; this, given before meals, would prevent vomiting and, as long as this was continued, he would not vomit. At the age of two, his tonsils and adenoids were removed, but without results as to the vomiting.

At four and a half years of age, he went to kindergarten and, on one very cold and snowy day, he caught cold and had his first attack of asthma. During the winter, he had many attacks of asthma and was often kept out of kindergarten, because of his colds and asthma. On the twentieth of March, he was taken to Boston and was quite sick for several days, had x-ray of the chest and head; there was some thickening of lower left bronchus; no demonstrable pathology of head. Protein tests were made and he was found sensitive to wheat, goose feathers, tomatoes, lobster and ragweed. He was protected from all the substances as fully as possible, but no improvement resulted. He has never had hayfever.

Autogenous vaccines were made from the bronchial and nasal secretions. These were given faithfully for long periods, with very slight benefit. Has had several attacks of middle-ear infection with discharging ear for several months at a time. In the fall of 1920, went to Arizona for the winter, returning late in May. Spent the summer in Toledo and the winter in Arizona. He spent three consecutive winters in Arizona and, while his attacks were not as bad as they had been in Toledo, still he had frequent asthmatic seizures which were very severe. His summers were practically free from asthmatic attacks, though he could never play outdoor-games or go in swimming and had to lead a very quiet life.

In March, 1923, Doctors Haseltine and La Forge presented their program on Asthma before the Toledo Academy of Medicine and, the following May, after seeing their work in Chicago, I went to Arizona and, with the inadequate equipment at my disposal and no experience in the method, did what I could to help the little fellow. On the way home, we stopped to see Doctor Haseltine and had him give the boy a thorough examination. He found an extensive septal and dental deformity with chronic bilateral purulent ethmoiditis. He advised that I bring the boy home and give treatments by the Dowling method and at the same time have an orthodontist begin the correction of the dental deformity. He did not then advise operation on the nasal septum but thought it might later be necessary. This advice was followed and the boy has done very well indeed.

During the summer, he played ball, roller skated, went in the lake and in every way acted like a normal boy of his age, with no suggestion of asthma. He spent the entire winter in Toledo and had one slight asthmatic attack following a very bad cold. Since his first treatments in Arizona, he eats what he likes, sleeps very well on a feather pillow and has no discomfort therefrom.

Comment: A typical "sensitization" case reported by the patient's father, himself a physician of wide experience in the treatment of asthma. The resources of experts in "immunization methods" were exhausted without avail. The case was easily recognizable as chiefly rhinological and required only such treatment as a physician untrained in the specialty could give after a few days' instruction. Note the prompt removal of all food restrictions and the early disappearance of "sensitization." B. H.

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Josephine D., Aet. 12. Referred to me as chief of department of head surgery, U. S. General Hospital 28, Fort Sheridan, Illinois, in February, 1919, by Lt. Col. Theodore Proxmire, Commanding Officer.

Mild attacks of bronchospasm began at four years of age, following severe head colds. Attacks became more frequent and more severe with lapse of time, with no difference as to time of year. Child had been under continuous care of physicians, with no relief except from hypodermics of adrenaline or morphine. Had been examined recently by two rhinologists. Both had reported negative nasal findings. One had advised tonsillectomy.

When first seen, patient was in severe and continuous bronchospasm, with heart showing severe strain and cyanosis so marked as to render prolonged examination impossible. With rest and relief from adrenaline for two days, satisfactory examinations were made.

Being in military service, we were fortunate in having this case studied by an unusual number of experts. Among these were Col. T. C. MacDonald, M. C., U. S. A.; Lt. Col. H. L. Dale, M. C., U. S. A.; Doctor (then Major) Arthur Byfield, Chicago, and Doctor (then Captain) Ralph Kuhns, now of the department of pediatrics, University of California Medical School. All agreed in pronouncing this a typical and severe case of bronchial asthma.

Physical findings were normal except that child was considerably under weight, with moderate chest deformity and emphysematous areas in both upper lobes. Heart function was good except during attack. Urine findings were normal (acidity not measured), blood findings normal except eosinophilia of 8 percent. Sensitization tests were not at that time available. No food or other sensitization was known to the parents, although a suspicious gastric irritability had been observed in early childhood.

The only abnormal finding in this child was a chronic, purulent, posterior ethmoid infection (bilateral). The only measures employed were treatment (daily at first, then with lessening frequency) of this infection by the Dowling method. Relief was apparent in two weeks and, in one month, she was sleeping normally without use of adrenaline or other palliative. At the end of four months, the child had gained fourteen pounds in weight and was entirely free from bronchospasm. Treatments were discontinued from this time, and patient was directed to report monthly for inspection. Doctor Byfield was kind enough to re-examine this patient after she had been one year without treatment, and he reported no symptoms of asthma. In this girl, the emphysema and chest deformity have quite disappeared, the heart function is normal and, when last examined (June 16, 1924), she showed no evidence of ever having been asthmatic.

Comment: An entirely rhinological case of a type often unrecognized—no surgery whatever employed—a result obtainable only by the Dowling method. Gratifying recovery from considerable structural damage after cessation of bronchospasm. No recurrence in five years.

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Miss G. V. C. Referred by Doctor Isabel Weaver, of Aurora, Illinois, with following history: Normal childhood except scarlet fever, since which time she has had constant "nasal catarrh." In April, 1920, at her home in Florida, when patient was fourteen years old, she had her first attack of asthma. It was severe and continuous for two months, when she obtained relief from hypodermics, drug not known. She came to Illinois and consulted doctors who seemed to give her slight relief, but she continued to have attacks and soon found that they were brought on by eating eggs in any form, or beefsteak. She soon eliminated these articles from her diet but would sometimes unwittingly eat something containing eggs, such as cake or ice cream, which would always be followed by bronchospasm.

Consulted several rhinologists who made skiagraphs of sinuses, reported negative. Had nasal sprays without benefit. One physician reported a positive blood Wassermann, but treatments based on this were not helpful. Doctor Weaver made complete general examination including tuberculin tests and blood Wassermann, with all findings negative. I

first examined the patient in October, 1920, when she was having typical bronchospasm. Her general appearance was good, except that she appeared somewhat exhausted and undernourished. Examination of the nose and throat showed severe necrosing ethmoiditis *of the left side only.*

The peculiar appearance of this lesion and its one-sidedness led me to have the patient re-examined to rule out tuberculosis and lues. No evidence of either could be found with the most complete clinical and laboratory study.

Dowling treatments for two months resulted in complete cessation of attacks and patient was allowed to return to her home in Florida with instructions to cleanse the nose herself daily with the Homes' postnasal irrigation. She remained free from bronchospasm until April, 1922, when she had mild attacks that increased in severity until she returned to Chicago and reported to me on May 20, 1922. She was then in mild but definite bronchospasm and the ethmoid pathology was about as when first seen. A radical ethmoid-sphenoid operation upon the left side was made at this time, followed by Dowling treatments with lessening frequency for three months, when the patient again returned to Florida, making the trip by motor and driving her own car.

From the time of this operation until this date (June 10, 1924), the patient has been free from bronchospasm, although a few times she has noticed a slight wheezing following a heavy meal of eggs or beefsteak which she has been allowed to eat as freely as anyone since the first month of treatment. She is normal as to weight and general appearance and is an unusually healthy looking girl.

Comment: Nasal pathology severe and the only entirely unilateral case I have ever seen. Unfortunate that Doctor La Forge had not at that time made his observation as to one-sided bronchospasm—this would have been an unique opportunity to study it. A clear sensitization case, with nutrition somewhat impaired by necessary diet restrictions. Occasional reactions suggest that sensitization has not yet wholly disappeared. Peculiar nature of lesion still leaves a suspicion of tuberculosis infection in spite of negative findings. Patient will be kept under observation.

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Daniel J., Aet. 7, referred by Doctor A. W. La Forge, in August, 1918. Mother reported that child had had chronic colds and difficulty in breathing through the nose since babyhood. Had been treated at various times by specialists, but condition had grown steadily worse. Difficulty in breathing was so great that child had to be propped up in bed each night, as he became cyanotic upon lying down. Patient underweight and very weak. Could not take part in any ordinary games with other children. Doctor La Forge reported no abnormal physical findings except chronic bronchitis with moderate emphysema, bilateral.

Examination showed child to be a typical asthmatic, and there was so much dyspnea that it was difficult to make a satisfactory examination. There was a severe chronic purulent ethmoiditis. It was not possible for the child to be kept in Chicago and, in conference with Doctor La Forge, it was decided to recommend that treatment be given by a rhinologist in the patient's home city, along with suitable measures for improving the general health.

This plan was a complete failure. I did not see the patient again until October, 1920, when he was brought to me in decidedly worse condition than when first seen. The mother reported that he had been under treatment (sprays, douching and "shrinking") for the nasal infection almost continuously during the interval, the nose having been several times cauterized. The condition had become so desperate that the parents had decided to bring the child to Chicago for treatment, which was immediately begun according to the plan we have outlined. There was lessening of the dyspnea in a few days and, at the end of the second week, the mother reported that the boy had slept quietly all night lying flat with the mouth closed and without the use of any drug which, she said, had not happened before since he was a baby. Patient was kept under treatment during the winter, having occasional attacks of wheezing, lessening in severity and in frequency. In March, 1921, under Doctor La Forge's advice, the tonsils and a rather large adenoid were removed under gas-ether anesthesia.

Following the operation (as is frequently the case), patient had an attack of bronchospasm, the last severe one he ever had. He was given Dowling treatments at lengthening intervals, for several months following the operation, and was continually under the general supervision of Doctor La Forge. When last seen, he was in splendid physical condition and entirely free from bronchospasm. A

letter from his mother, dated April 27, 1923, says: "Two months have elapsed since his last visit to the Doctor and his nose is free and clear. We are truly happy over his present condition". In November, 1923, the mother reported that the boy was regularly playing on his school football team, with no symptoms.

On June 9, 1924, he reported for examination, was in excellent health and he had had no bronchospasm since he was last treated in Chicago. He had spent the winter in St. Paul, Minn., a location presumably unfavorable to such patients.

Comment: A predominantly nasal case. No relief from treatment by rhinologists with ordinary methods. Marked relief from treatment by Dowling method, but not complete until after removal of tonsils and adenoid. No specific medication and no food restrictions. Patient normal three years after cessation of treatment.

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Case—Reported by Doctor A. H. Waterman, Chicago.

Mrs. O., housewife, aged fifty-eight years, first seen October, 1917, at which time she weighed 138 pounds.

Family history is negative. Patient's history is negative except for attacks of asthma as a child, insomnia for years, and chronic constipation. Patient stated that she had been troubled with sneezing spells and frequent colds since girlhood, but that the first attack of hayfever developed when in Tennessee, in 1885, when she was twenty-six years of age. The attacks continued to grow worse and more frequent until they averaged seven and one-half months of the year, commencing the middle of April and continuing until the middle of November to the first of December. This patient stated that she had employed every treatment that she had heard of, without relief.

At the time of the first examination, the patient was in a condition of true bronchial spasm. Examination showed cardiac hypertrophy and a murmur with and following the first sound best heard over the mitral area; however, cardiac compensation was complete. Asthmatic rales were heard over the entire chest and expiration was prolonged. No cough present. The dyspnea was a bronchial spasm and not due to the chronic cardiac condition found. Immediate relief was obtained by epinephrin.

Further examination showed a chronic ethmoiditis with terrific edema of the turbinates. She was in a general toxic state. There was faulty elimination by the kidneys, the chief reason being neglect of using water, as the elimination improved when the patient followed directions for drinking water. This patient stated that she had never drunk much water.

All laboratory examinations were negative except for concentrated urine, increased acidity, and trace of albumin and hyaline casts which later disappeared. Blood examination was normal except that the eosinophiles were 4 percent.

This patient had never had any nasal operation performed but had received many treatments by various rhinologists in different sections of the country, and once the cautery was used; but at no time did she have relief of the hayfever except in the months stated.

Patient was placed on active eliminative treatment to improve general metabolism. Faulty elimination was corrected. She was taught to have the skin, kidneys and intestinal tract function in a physiological manner. Radical operation on the ethmoid was performed by Doctor Haseltine late in November 1917, followed by the Dowling treatment.

This patient has been free from all symptoms of hayfever since the operation and has not had another asthmatic attack. Her general health has continued to improve and, in October 1923, this patient weighed 164 pounds. Examination of the urine was negative. Examination of the heart gave the same findings as when this patient was first examined, in 1917.

Doctor Hollis E. Potter's report on the x-ray of the chest, made on the 16th of October 1923 was: "Lung fields clear except for usual fibrosis around the root. The cardiac profile is increased both to the left and right and the aortic shadow a little prominent, although in correspondence to the heart change. Oblique views show no aneurysm.

Comment; This was a rhinological case complicated by the general toxic state. Cardiac pathology was present, but compensation was complete. This patient had suffered from asthmatic condition for thirty-two years. Although she is now sixty-four years of age, she has been without treatment for six years and has had no return of asthmatic symptoms.

Practical Organotherapy

By IVO GEIKIE COBB M.D., M.R.C.S., London

Author of "The Organs of Internal Secretion," "Aids to Organotherapy," "A Manual of Neurasthenia"

I HAVE chosen the title of Practical Organotherapy for this paper for one definite reason. When the Editor of CLINICAL MEDICINE invited me to contribute an article to his Journal, he impressed upon me the fact that most of his readers were engaged in general practice and were keenly interested "in efficient and effective additions to the therapeutic armamentarium".

From this hint, therefore, I assume that a thesis upon the physiological aspect of organotherapy would be less welcome than a paper dealing with the application of this branch of medicine to the cases we all of us encounter every day of our professional lives. As I am a week or two behindhand in the completion of my task, I purpose to attempt to conciliate the Editor by adhering strictly to his wise and helpful counsel. Furthermore, I shall make no attempt to present an orderly account of the practice of organotherapy, feeling as I do that this can be obtained from any of the excellent textbooks or from one or other of the periodicals devoted to the subject. I shall discourse upon the help which, I believe, can be obtained from the judicious employment of preparations manufactured from organic tissue; and relate some of the expected and unexpected results of such administration.

There is little doubt that not a few practitioners are discouraged from using organotherapeutic preparations by the diatribes, often senseless, which are periodically discharged from the mental storehouses of physiologists. These gentlemen, be it noted, are concerned solely with the effects proved to have been produced by experiments with animals; and their correct attitude to the clinician, when he states his case with regard to one particular substance and its effects upon the *human being,* should be; "It may be so, but it has not so far been shown to be the case in the laboratory." Too often it is: "*We* have not proved it and, therefore, it is not so." This, however, does not deter them from proving, subsequent to its establishment clinically (and in this instance decidedly subsequently), that an extract of the ovarian tissue, for example, does cause an increase in pituitary secretion. Most workers in this field *know* that the functional activity of the ovary can be stimulated or inhibited in a large proportion of suitable cases by the exhibition of the hormone or the chalone extracted from this gland. There are on the market preparations of this kind which I believe to be both reliable and effective.

The argument that the growth of organotherapy is due to the commercial instincts of the manufacturing chemists is patently absurd. No system continues to grow unless it is producing results. Any novelty may succeed for a time and up to a point, but, beyond this, its growth is controlled by its results. I would hazard that the expense of manufacturing organic substances is a bar to their adoption, and a brake to the enthusiasm of any manufacturer, unless there is proof of a persistent demand for them. It is also obvious that the sale of the ordinary inorganic chemicals and their multitudinous compounds is large enough to keep most manufacturers out of mischief; and yet practically all the big drug houses have established a department to cope with the demand—not from the public—but from the medical profession. Many firms are occupied solely with organotherapy. Their products are costly, and yet they succeed; because, I suspect, the physicians, in turn, succeed when they prescribe what common sense dictates.

In a word, all business (and the manufacture of medicines is a business) has its commercial aspect. This—unless it becomes the sole aspect—is normal and legitimate. I see no reason why the manufacture of pituitary extract should be more commercial than the hawking-round of compounds of aloes.

Thyroid therapy has not even yet reached the summit of its usefulness. No doubt, it is gaining in popularity every day, for it is indeed "the keystone of the endocrine building". It may be permissible here to draw attention to a few of its less well-known utilities. Before doing so, however, I will refer briefly to some of the characteristics which suggest, either,

1.—That some degree of sub-myxedema is present; or

2.—That the extract can be used usefully for its physiological effects.

We are all familiar with the sub-thyroidic individual, whether he be an infant or an adult. In the former case, he is characterized

by deficient growth and development; in the latter, by a sluggishness of mental and physical metabolism which is as striking as it is remediable. I suggest that many of the minor ailments, which develop in a patient of this type, owe their inception to the deficiency of the thyroid secretion, and that it is this fact which enables the abnormal function to blossom into a symptom. Such individuals are frequently aged, and they suffer from the toll of advancing years long before it is their due. Middle age arrives in the thirties; senility in the fifties. Their disorders are nearly always plainly related to the undue storage of waste products, to deficient oxidation and the evils consequent therefrom.

This leads us at once to the second heading, namely, the utility of thyroid feeding in individuals not obviously showing the stigmata of thyroid deficiency. If we consider for a moment the action of thyroid substance, we shall be able to regard it as we do any inorganic remedy, namely, from the point of view of the effects we expect to see from its exhibition.

As is well known, the administration of thyroid substance is followed by very definite changes in the bodily metabolism, but these differ clinically, according to the requirements of the individual organism; that is to say, the effects to be noted depend upon whether hypothyroidism is marked, or whether we are giving the drug to an individual with presumably normal thyroid function. Briefly, the results are as follows: No changes are seen for twenty-four to thirty-six hours; then the heart-rate increases, the temperature rises, there is striking increase in the metabolic rate, and there may be some restlessness with looseness of the bowels, the feces being a lighter color than usual. The increased metabolic rate has been shown to be total—i.e., affecting proteins, fats, and carbohydrates.

The amount of thyroid which is required to produce these typical changes varies not only as regards normal and subthyroidic individuals but among normal people. It has been shown, however, that one large dose of thyroid is much less toxic than small doses frequently repeated; and it is this fact which makes it desirable, at least in the opinion of some clinicians, to omit the drug for definite periods every few weeks. The dosage varies from a fraction of a grain to several grains in the twenty-four hours. Incredibly large doses have been taken without apparent harm; and I have seen one patient who stated that she had taken a hundred grains a day for eighteen months. She showed me a bottle of five-grain tablets with a well-known firm's name thereon, and assured me that she had taken twenty-five of these a day with fair regularity for a year and a half.

Her condition was surprisingly normal—there was slight tachycardia, a normal temperature, and no other sign of hyperthyroidism. She had lost a stone and a half in weight originally, but had lost no weight recently in spite of taking these heroic doses. She complained, however, of extreme fatigue, restlessness and nervousness. It is only fair to state, moreover, that no medical man had sanctioned such a dosage, but that she had prescribed it for herself in an effort to reduce her weight. She was not, however, a markedly hypothyroidic subject, and I doubt whether this gland had ever been the main cause of her adiposity.

If we contrast this patient and her dosage with another, we shall illustrate the point under discussion, namely, the varying effect of thyroid feeding on the definite subthyroidic, and the more or less normally balanced thyroid individual.

The second example of thyroid feeding was a tall, stout man in the forties, who suddenly commenced to put on weight, rapidly increasing from fourteen stone, which had been his weight for years, to eighteen and a half stone. It is sometimes stated that there is a period for men in which changes comparable to the climacteric in females may be observed; and this patient was certainly an example of circulatory instability, accruing in the fourth decade. His blood picture showed profound changes; the erythrocytes were about two million and the white cells four or five thousand, the color-index being above normal. Thyroid extract in doses of from 8 to 12 grains per day had an astonishing effect upon the entire organism, and he lost between two and three stone in weight in the first few weeks of treatment.

The subsequent history of this patient is instructive. Ten years later, he had developed a typically hypopituitary state; he was obese, the distribution being pituitary rather than thyroid in type; there was an absence of all sexual power and desire, the testicles being small and atrophic, the blood-pressure was below 100, but the temperature was normal, except for periods when it rose to 99 or thereabouts, and which appeared to correspond to hemolytic changes taking place in the body. His blood-picture was typically that of

pernicious anemia; but practically all his signs and symptoms disappeared on the administration of pituitrin intramuscularly. It is true that arsenic was given at the same time; but, as he had had large doses of this for months before he came under my observation, without benefit, it is fair to assume that the organotherapeutic remedies were responsible for the improvement.

My personal belief is, that there are a great many disorders with no known etiology, where there are present disturbances of the endocrine glands; and I think it is a good plan in any such cases to keep a wary eye for signs of such disturbances. It does sometimes happen that organotherapy helps in adjusting that balance which we know as "good health", although we cannot always point out the steps by which the improvement has been brought about.

Let us next turn our attention to a very different class of cases, but one which looms largely in practice, to wit, delayed development in children. We need spend no time in considering the cretin; both his diagnosis and treatment are straightforward. The same may be said about the child with Fröhlich's syndrome—at any rate so far as the diagnosis is concerned. The patients who are apt to baffle our therapy fall into two groups—

1.—Those with predominantly deficient thyroid apparatus.

2.—Those with no signs of hypothyroidism. We can subsequently also consider cases of delayed development from another angle, to wit: whether the mental or the physical development is the most markedly abnormal.

1.—The child who exhibits any of the definite stigmata of hypothyroidism should always be given thyroid substance, commencing with a small dose and being guided by the pulse-rate, temperature chart, basal metabolism (if possible) and general changes, both as to the length of treatment and the dose which may be considered adequate. Some children, whom I would place in this class, require relatively large doses of thyroid substance, to produce a normal clinical picture; and they frequently show little improvement until they are obtaining doses adequate to their requirements. But the dosage should always be carefully regulated, and the effects noted. It is a good plan to keep a simple chart, recording increase in weight, height, and the changes in temperature; pulse-rate and, if possible, basal metabolism.

Several writers have now pointed out that some of these children appear to progress better when another organic extract is added to the prescription, but, although there are many occasions on which the mixed glandular preparation is useful, this class of patient is preeminently a subject for thyroid feeding, both by reason of the diagnosis and the results usually obtained.

2.—The deficient child, without apparent hypothyroidism.

In this group, we can place children who are "backward" but who are physically normal, and, at the other extreme, children who are mentally up to standard, but who do not grow and develop normally. Obviously, the first step in considering such a patient is to try and establish an endocrine diagnosis. A deficient pituitary is shown by sluggish metabolism, but the skin is smooth and "waxy", not dry, rough and harsh as is the case in hypothyroidism. The skin is also singularly hairless, and there is an absence of axillary and pubic hair, even when the age of puberty approaches. There is ample fat, more especially deposited around the lower abdominal zone and upper part of the thighs; and this usually appears as "rolls" of fat rather than the "pads" so typically seen in hypothyroidism. The pituitary type of child is described as of small and delicate stature, but fat and flabby, with small hands and feet. Such children eat abnormal amounts of starchy foods and "sweets"; have a subnormal temperature, low blood-pressure and slow pulse. Mentally they are often as sluggish as they are physically.

Many children belonging to this type make good progress on anterior pituitary; but it seems that they get along even better when this is continued with small doses of thyroid. On the other hand, they do not make equally satisfactory progress upon thyroid alone; and there is no doubt that many failures of thyroid therapy in this class of patient depend upon the overlooking of the pituitary factor. With regard to dosage, the writer is of the opinion that about 10 grains a day is a useful dose to commence with, but sometimes much larger doses are required. When the indications of pituitary deficiency are as clear as in the picture we have just drawn, it is much wiser treatment to persist in the pituitary-thyroid therapy, even if no improvement is seen for some weeks, rather than chop and change, adding a little something here, or a little something there, until a product has been obtained which bears a painful resemblance to the polypharmaceutical horrors of the last century. It should be remembered that the dose of thyroid must be smaller than

we should like, and that of pituitary larger than we are accustomed to!

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Turning for a moment to other varieties of deficient development, some mention must be made of the child with a persistent thymus. The "Angel-child", as he has been called, is the subject of physical delay rather than mental. He is the possessor of overgrown lymphatic tissue, and careful percussion can often demonstrate a square-shaped area of submanubrial dullness, which corresponds to the enlarged thymus. An x-ray picture sometimes confirms this, and we have then demonstrated one factor which presumably acts as a brake upon normal development. It is now known that the thymus does not disappear as the child nears its second decade with the regularity which was formally believed, but it certainly should wane as the sexual secretions wax. Moreover, when enlargement of the gland is demonstrable in children of five years or over, it deserves to be reckoned with in the clinical picture and the subsequent treatment.

Unfortunately, the exact role of the thymus, and its relation to other of the endocrine glands concerned with development, has not been accurately determined. That it is enlarged in association with certain definite endocrine diseases, such as exopthalmic goiter, has long been known; and the fact that it is abnormal in cases where other glands, e. g. the pituitary, are diseased, is evidence that its association with growth is definite. The thyroid and pituitary are both necessary to normal development; and, so far as we know, only up to a point can the one act successfully for the other so far as development is concerned.

The term Infantilism has been introduced to describe the persistence of childish characteristics into the adult life. We need not discuss here the different varieties of infantilism which have been described; it will be sufficient briefly to refer to the main types and suggest possibly efficacious organotherapeutic treatment.

Dystrophic Infantilism was first described by, Lorrain in 1871, and refers to the *"homme miniature"*, the picture of a normal individual seen through an opera-glass reversed. Opinions differ as to the causative agent or agents involved in this syndrome; but most authorities believe that an infection has upset the endocrine balance, and that one gland, probably the pituitary, has suffered histological changes with resulting dysfunction. Infantilism is also encountered in connection with chronic intestinal and digestive disturbances ensuing during childhood; also a variety has been described as "pancreatic infantilism", where great improvement has been manifested in growth by the administration of pancreatic extract. Other varieties of infantilism are those associated with hepatic and renal disease, with celiac disease, and with diabetes insipidus. In this latter instance, the influence of the pituitary is obvious.

Various single and mixed preparations have been tried in the treatment of these states, but it is important to remember that every help which can be afforded by dietetic remedies should be utilized. Predigestion of carbohydrate foods, the addition of hydrochloric acid to the main meals, codliver oil, and the provision of foods rich in vitamines, all may be helpful in the treatment.

So far as organotherapy is concerned, the sheet-anchor is pituitary extract in one or other of its forms; and most authorities believe that it is wise to utilize the help which comes from wise thyroid feeding. Various attempts to stimulate the hypoendocrinism (which appears to be present in these patients) have been made, but no definite results which show greater progress than could be justifiably attributed to the thyroid and pituitary elements have been recorded. If progress is not made after a reasonable trial with adequate doses of the thyroid and pituitary moities, extracts of the gonads may be added to the prescription. Several authors have reported favorably on treatment by thymus in infantilism, but it seems doubtful whether it is wise to commence with any other glandular **extracts in preference** to the two already mentioned, it being preferable to utilize them only when no success has attended the initial treatment.

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Let us consider for a few minutes another aspect of organotherapy, namely, the administration of extracts of the genital organs. The question which has never been answered unanimously is—are these preparations effective when administered by the mouth, or is it useless to expect results when given by this route? On the one hand, laboratory workers tell us that the extracts are destroyed in the stomach, that they have no demonstrable effects upon metabolism, and that their administration is valueless. Against this, claims have been made by clinical workers that these preparations have produced effects such as stabilization of the catamenia, the prevention

of the subjective abnormalities associated with the menopause, the production of the menstrual flow in cases of delayed onset, etc.

It is difficult for the practising physician to evolve order out of chaos when statements such as that "no organic extract with the single exception of thyroid had ever been shown to be efficacious given by the mouth" are made. Pituitary extracts are now known to be active, although the relative value of the anterior and posterior extracts in relation to various disorders is still not definitely settled; and it is not too much to say that many workers in this field of medicine are convinced that, when active, carefully prepared orchitic and ovarian extracts are used, clinical results follow. It may be wise to coat these preparations with formalin or some other chemical which protects them from the action of the gastric juice; for, this insures that they will enter the alkaline bowel unchanged. Experiments carried out recently with extracts of pancreas, however, showed practically no different results between preparations treated in this manner and those not so treated.

From the practical standpoint, many manufacturers supply preparations made from the different parts of the ovary. It has been shown that there are at least two hormones present in the ovary, or rather, present in some stage of the menstrual cycle, and these can be utilized for stimulating or inhibiting the menstrual flow. So far as the experience of the writer is concerned, he has frequently utilized preparations, manufactured from corpus luteum and often been pleased with the results. Where hyperoöphorism appears to be causing excessive menstrual flow, the exhibition of a preparation made by a well-known firm, for a few days before the catamenia is expected, has resulted in a marked diminution in the loss. In one case, the patient returned to inquire whether she was pregnant, as she had missed three periods in succession. She had, without orders, continued taking the preparation more or less continuously; but the normal period came on a short time after she left off the preparation.

It is more difficult to assess the effects which orchitic extracts exert, but even in the present stage of our knowledge, I think, they are often worth trying. In impotence, I have been disappointed with the results of glandular therapy, more especially with the exhibition of orchitic preparations. Where there is also evidence of pituitary insufficiency, it seems to me that better results would accrue from pituitary therapy, more especially when administered intramuscularly.

And this brings me to the question of the best means to adopt to insure the absorption of whatever glandular product is utilized. Where we are dealing with cases of straightforward endocrine diagnosis, it is simpler and at the same time reasonably reliable to commence the treatment by orally administered preparations. Where we are treating a single symptom, for example, impotence, and where we are uncertain of the gland at fault—in other words where it is necessary for the results of treatment to be watched and checked, the hypodermic or intramuscular route is immeasurably superior.

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There are, as we have already said, a number of disorders in which thyroid therapy has been tried and has met with a certain measure of success. Possibly most of these depend upon an underlying hypothyroidism even though of the slightest. Some of the instances, such as psoriasis, are clearly related to the stigmata of thyroid deficiency; not that this necessarily implies that they are so caused. Many successes have been recorded in this complaint following the administration of thyroid substance. The failures are also numerous; but this, we must remember, may depend upon inadequate dosage. One case reported recently in the medical journals supports this supposition. The patient made no progress under the treatment until large doses—I think fifteen grains daily—were given, when the rash disappeared. Other skin diseases in which thyroid therapy has been tried are scleroderma, ichthyosis, eczema, and alopecia. The reported results are variable and we may sum up the present position in regard to skin diseases by saying that, when there are no contraindications to the administration of thyroid substance, it is usually worthy of a trial.

The obvious relation between "rheumatism" and the muscular, ligamentous, and fascial thickenings typical of myxedema, suggested that thyroid therapy might be tried in the various aches and pains which go under the generic name of "rheumatism". It is surprising, moreover, how often improvement in these complaints ensues upon a course of thyroid. The underlying pathology has been thoroughly investigated by Hertoghe, of Antwerp; and in his writings he explains in a convincing manner how lack of thyroid is accompanied by alterations in the elimination of waste-products, leading to thickening in any or every system.

Some authors, almost as a matter of routine, administer a small dose nightly—e. g. ½ grain, to all their arthritic patients; believing, no doubt, that it assists elimination, and acts as a "vital antiseptic". The writer is in the habit of treating all patients suffering from chronic toxemia to a course of thyroid, except in cases where there are definite contraindications.

This leads us to the question of contraindications for thyroid therapy. There are, of course, one or two diseases in which it should not be given. Exophthalmic goiter is, perhaps, the most obvious and, with one or two exceptions, authorities are agreed that this form of treatment should not be prescribed in this disorder. As Levy and Rothschild have pointed out, the coexistence of a state of hypo- and of hyper- thyroidism should not be overlooked; and such a combination—the socalled "dysthyroidism"—might conceivably be benefited by thyroid feeding. That a case of typical Graves's disease should be given thyroid, appears to me unsound; and I personally have never seen any good results from such medication.

Tuberculosis is another disease where this treatment should be avoided, mainly because, as a rule, there are usually signs present very like those seen in exophthalmic goiter. The lack of flesh, the tachycardia, the wealth of hair, the moist skin, are all signs of ample thyroid secretion.

In general terms, therefore, patients exhibiting signs such as these, associated with restlessness, disturbed sleep, or digestive disorders, are not suitable subjects, and the administration of thyroid substance is contraindicated.

Other conditions in which thyroid has been used include pruritus ani, delayed union of fractures, nocturnal enuresis, chronic (and acute) infections and renal disorders (chronic nephritis). Hemophilia, epistaxis, and purpura have all been treated by this substance; and as it definitely changes coagulation time, (but apparently not always reliably), it may have some action in these disorders, although this must necessarily be somewhat uncertain in action.

It is, however, distinctly useful to incorporate thyroid therapy in the routine treatment of hyperpiesis. But a word of caution is needed, as such patients, more especially those belonging to the nephritic class, are not rarely found to possess weak cardiac musculature, and the exhibition of the thyroid should only be resorted to when the patient is under regular supervision and when the reaction to the treatment can be carefully watched. I have, however, seen satisfactory reductions of the pressure-reading in a certain proportion of these patients; and I think that the treatment is certainly worth trying where one is dealing, as in these patients, with deficient elimination and a storage of waste products.

To sum up then, always be on the watch for signs **of endocrine disturbance.** In a certain proportion of patients—and this is increasing year by year—help can be obtained by the administration of organic preparations. The time will, no doubt, come when we can intercept disorder before it has become disease, and by judicious endocrine medicine stem the flow of disordered function.

22 Queen Anne St.

Papillitis

By CHARLES J. DRUECK, M.D., Chicago

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THE transition from mucous membrane lining the intestinal canal to the external skin at the anus is accomplished in three distinct steps, each forming a distinct zone. In the intermediate zone, the epithelium changes to several layers of polygonal cells. Dermal papillæ are found here. The submucous layer is very vascular and contains a ganglion plexus together with lamellar corpuscles. The muscular coat terminates in slender bundles in the rectal columns, forming the internal dilator muscle of the anus, while the circular layer of the muscular coat becomes thickened into the internal anal sphincter. This internal anal sphincter is of smooth muscle fibers. Below this muscle is the external anal sphincter, which is composed of striated muscle. (Lewis and Stohr Text-Book of Histology.)

The anal mucous membrane, at its termination in the neighborhood of the internal sphincter, is thrown into a number of longitudinal folds. This has a two-fold object: first, to accommodate itself to the narrow anal canal when contracted and, second, to allow the dilatation of the anus without undue stretching of the mucous membrane. Between each series of folds is a depression which

Fig. 1. Anus everted showing papillæ.

dips down and terminates in a little pocket. These pockets are known as the crypts of Morgagni and form a sort of semilunar valve between each column.

Between each semilunar valve is a little tactile body known as a papilla. The semilunar valves are supposed, by some, to secrete mucus to lubricate the anus. Occasionally, foreign bodies or little particles of fecal matter find their way into these pockets and ulceration results. This ulceration may or may not terminate in abscess formation; if it does, it will usually result in fistula. The ulceration may be slight, yet sufficient to cause considerable disturbance.

The columns of Morgagni are well adapted for the protection of blood vessels. These columns contain a vein and an artery. The vein very often becomes varicose, producing hemorrhoids. On account of this varicosity, the semilunar valves are held open and, under these circumstances, are more apt to become inflamed or torn. As a result of congestion, the papillæ enlarge, and occasionally one sees, in connection with a hemorrhoid, a sacculated valve and very much enlarged papilla. These papillæ sometimes reach relatively enormous proportions.

There are 10 to 14 of these tubercles or papillæ which, when in a normal healthy condition, are scarcely visible, but when enlarged and inflamed are easily seen through the anoscope or by everting the anus. They appear as an irregular line of small saw-tooth-like projections encircling the upper limit of the anal canal at what is called the linea dentata. Figure 1 illustrates these papillæ, as seen by everting the anus. Figures 2 and 3 as seen through the anoscope.

The pyramidal teats have a pinkish-colored base continuous with the mucous membrane below, but have a pearl white tip, their bases directed upward and inward with inflammation or ulceration of neighboring crypts (cryptitis), and may hang down as a long

Fig. 2. Enlarged papillæ seen through the anoscope.

slender ribbon, perhaps an inch long, or may be a rounded ball-like tumor, which may be mistaken for a skin tab, a polyp, an anal wart, or a little tag of mucous membrane. (Fig. 1.)

On palpation, these papillæ feel like hard nodules about the anus, and a digital or specular examination is very painful. These papillæ are tactile organs with a special rectal sense, which if destroyed by a Whitehead hemorrhoidal or other operation permits evacuations to occur without warning. The histological examination of these papillæ is very interesting. Several layers of stratified epithelium cover the papilla, the body of which is composed of erectile connective tissue, similar to that of the corpora cavernosa of the penis. In this tissue are numerous thin-walled venous spaces with but slender trabeculæ of tissue between them. The veins of this structure have such thick walls as to closely resemble arterioles (Fig. 4). Each papilla has nerve filaments from the pudendal and the inferior hemorrhoid. Sensory filaments terminate in tactile corpuscles in the superficial or external mucous membrane structures and in lamellar corpuscles in the cavernous tissue.

Etiology

Why these papillæ become hypertrophied is sometimes very obvious and, in other in-

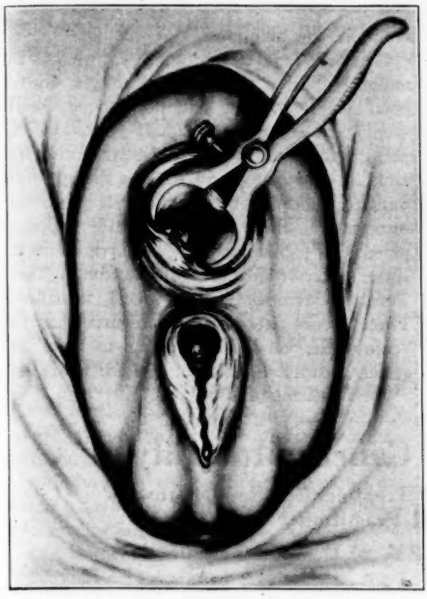

Fig. 3. Enlarged papillæ seen through the operating speculum.

stances, quite obscure. It may be caused by traumatism of the anal canal by foreign bodies, hard feces, repeated replacing of a prolapsing hemorrhoid or polypus, a chronic acrid discharge from cancer, abscess, ulcer or proctitis, digital stretching of prostatic massage, frequent or careless instrumentation or the rough usage of enema or irritating tubes.

Symptoms

Once these papillæ are irritated, they set up a chain of neurogenic disturbances which is both painful and otherwise annoying to the sufferer. At each passage of the feces, the cavernous spaces engorge and the papillæ are dragged down through the external sphincter until they protrude externally. There is a feeling of fullness and tickling within the anal canal, a sensation of incompleteness of evacuation and, as the engorgement subsides, the papilla recedes with a feeling as though worms were being voided or were on the skin about the anus. There is also a consciousness that the anal sphincter is unduly contracted. This séance recurs with each defecation and it may be several minutes, or perhaps an hour, until, by sphincteric compression and by retraction of the mucosa, the papillæ are depleted and assume their former size and position, and the distressing symptoms subside. As the papillæ become hypertrophied and are continuously enlarged, the

Fig. 4. Microscopic section through anal papillæ showing cavernous tissue.

symptoms are more likely to be constantly present. In some instances, the anal sphincter is so spasmodically contracted as to prevent a complete evacuation and the lower rectum remains filled with feces. An enema given at this time will empty the bowel, but its administration is painful and, therefore, objectionable to the patient. Neuralgia of the rectum, lumbar or sacral ache, is also complained of and vesical spasms and pains down the legs.

Hypertrophied anal papillæ are frequently the cause of a tight sphincter and an unsatisfied feeling after stool.

Although the symptoms of papillitis are quite constant, this condition is frequently overlooked and treatment instituted for pinworms, hemorrhoids or pruritus; or, perhaps, the feces are examined for some irritating factor. Such treatment, of course, fails to relieve, and the patient is then dismissed as a neurotic when his trouble is all local and really very amenable to treatment. If untreated, these papillæ may become definite polypoid tumors or the venous congestion be the forerunner of hemorrhoids.

Treatment

All of this troublesome chain of symptoms will be relieved magically by amputation of the papillæ, which is very satisfactorily accomplished under local anesthesia. The width of the anesthetized field may be modified according to the extensiveness of the disease in the case on hand. (My technic of regional anesthesia I have described elsewhere.)

When only a few individual papillæ are to be removed, the infiltration may be confined to the diseased masses. The needle is inserted

into the mucous membrane at the base of the tumor and gradually advanced toward the apex, injecting as we proceed. Ten drops of anesthetic solution to each papillæ is usually enough. When a number of papillæ are enlarged and the sphincter is hypersensitive, it is better to anesthetize the whole anal ring and the sphincter muscle.

Having anesthetized the papillæ so that it may be manipulated without causing pain, it is drawn out with tissue forceps and cut off well below its base. The wound is not sutured. Local asepsis (careful cleansing after each defecation and a warm sitz bath each day) is all the after-treatment required. When the patient is discharged, he is instructed to continue the ablutions.

Case 37, a woman, aged 45 years, the mother of three children, has always enjoyed good health and has had no previous bowel trouble. For two and a half years she had pain, itching and a creeping sensation at the anus, is constipated and feels as though evacuation is incomplete. Anus feels sore. On examination, there were found five hypertrophied anal papillæ and one hemorrhoid on the right posterior quadrant of the anus. These were all removed under local anesthesia. Three weeks later, patient reports that she "enjoys the comfort of going to stool and getting results she has not had for years."

30 N. Michigan Blvd.

The Reduction of Cancer Mortality

By the Early Recognition and Treatment of Small Growths by the General Practitioner

By G. BETTON MASSEY. M.D., Philadelphia

ALL writers and workers in oncology agree that late recognition and deferred treatment of cancerous growths are the most serious of all drawbacks to effective treatment. In doing so, they attest, either consciously or unconsciously, their belief that malignant growths are of local origin—that the whole of the materies morbi is situated at first within the borders of a small nodule (save possibly the lack of tissue resistance in the individual that permitted it to be there implanted, but which of itself is not cancer), and that a patient may be "cured" by the removal or destruction of this nodule before local or regional colonization has spread from it. This belief is based on facts within their experience, namely: an increasing number of such cures under the modern methods of electrocoagulation, radiation, or wide excision.

The cry for earlier diagnosis is therefore a most general and insistent one, for in this way only can we as yet lower the mortality.

The general practitioner is in the first line of trenches in this war. It goes without saying that he should be able to recognize the enemy before the latter's last and fatal charge; but, to do so, he must forget the vicious descriptions of cancer that he was brought up on—ulceration, pain, hemorrhage and odor—and know, as it has been well said, that these are not the signs of cancer but are signs that the patient is dying of cancer.

Aids to Early Diagnosis

The really valuable signs of cancer in its early and curable stage are:

1.—Absence of tenderness or real soreness in a recently discovered nodule is very significant of malignancy if signs of a cystic condition are absent. All ordinary inflammatory tumors are tender to the touch—cancers never, either in the early stages or in any stage.

2.—Absence of pain is invariably characteristic of early carcinomatous nodules except in the rare instances where the nodule is confined with a sensory nerve between two bony surfaces. Pain occurs otherwise only after considerable progress of the growth has permitted the erosion of sensory nerve fibers. A belief that a lump must be tender and painful to be a cancer is general among all classes of the population and is causing thousands of deaths annually.

3.—Hardness to the touch is a most important positive sign of cancer, and this revelation to the cultivated tactile sense is of special value in appraising nodules in the lip, tongue, floor of the mouth, breast, cervix and anorectal region. The examination should be made gently; for, to my own knowledge, physicians have squeezed small cancers into rapid growth. The pad of the finger and not the tip should be used. This firmness of carcinomatous tissue is characteristic in that it is seldom due to lessened watery content as compared with the surrounding tissue, as is the case in benign growths, but seems to be due to a form of erectility of living cancer cells; for it becomes soft on electrocoagulative death in spite of the hardening effect of the current.

Even an uncultivated tactile sense should

discriminate between a hemorrhoid and a cancerous nodule within the rectum or at the anal edge. No proctologic instruments are necessary for the presumptive diagnosis of cancer of the rectum in a very early stage. The training of the general practitioner gained in his obstetric experience is invaluable when he uses the only instrument needed, his forefinger.

4.—Visual evidence. When the growth is on the skin surface, we have, in addition to the negative and positive signs mentioned, the special appearance of a growth as an important aid to diagnosis. One's clinical experience must be slight indeed to require other evidence than that presented to the eye for the presumptive diagnosis of the commoner forms of epithelioma of the skin, with the assistance of the time factor. Lupus alone grows as slowly. Crusts, that reveal on occasional exfoliation, moist, ulcerated surfaces without great induration of the base, show the epithelioma to be of the basal cell type that is most readily eradicated; while the prickle-cell type of epithelioma is more difficult.

Methods of Treatment Available to the Office Practitioner

These factors in the formation of a presumptive diagnosis of incipient epithelioma are here emphasized, not merely to assist in the early reference of the more serious cases to an oncologist for study and possible eradication, but to point out that the smaller growths, particularly epitheliomas of the less sensitive regions of the skin, may be eradicated and the patient cured in these early stages by any office practitioner who has a high-frequency generator or even a simple galvanic battery. I do not mention the x-ray (for this is unnecessarily powerful in these small epitheliomas, with possibilities of damage even in skilled hands) nor radium, which is really less effective than the inexpensive methods advised in this paper and requires a longer time to secure results. The single advantage of radium in these cases is, that it may not leave a scar.

But, it may be objected that the general office practitioner would have to procure a high-frequency generator for the treatment of an affection that is seldom seen by him. The answer to this is, that he should have such an apparatus anyway if he wishes to obtain the remarkable relief effects afforded by medical diathermy in patients with any form of chronic inflammatory stasis without abscess formation; in chronic or acute pains in any part of the body; high blood pressure; acute and chronic sprains, etc., etc.; and even as an important adjuvant recently recommended in pneumonia.* In all these medical applications, diathermy is administered from plate electrodes with surface areas proportioned to the part to be treated, and a current supply per square inch capable of heating to simple hyperemia the whole thickness of tissues between the electrodes, the heat being developed within the tissues themselves and as intense at the center as at the surfaces.

A somewhat similar high-frequency current, when concentrated at the point of a fine needle, has desiccative and destructive effects that constitute the surgical diathermy, or desiccation, that may be used in the destruction of benign skin growths as well as the small epitheliomas referred to in this paper.

Even in the absence of a properly constructed high-frequency generator, the practitioner is still not without resources in lessening cancer mortality at its most vulnerable point, its earliest stages; for he may employ zinc ionization with a home-made zinc needle and a direct current obtained from a Radio B battery costing but a trifle.

Details of the High-Frequency Current Destruction of Small Skin Epitheliomas

This method is properly called Desiccation and not Fulguration, and employs the Oudin current of just sufficient strength to accomplish the purpose when concentrated in an arc of electrons flowing from the sharp point of a fine wire electrode. The electrode is kept about an eighth of an inch from the surface of the growth to produce this arc.

The patient should lie on a couch or operating table, with a cushion placed near the growth on which the operator's hand may be steadied, as the operator should not come within sparking contact with the patient while the current is flowing, as both will experience an unpleasant sensation. A small crusted growth may be destroyed without local anesthesia if the patient will consent to a momentary burning sensation (always slight when the current is confined to the non-sensitive malignant tissue itself, but greater when the base is reached); but, surrounding the growth by an endermic instillation of 2-percent procaine solution with a hypodermic syringe will permit its destruction to be painless.

The Oudin current of the high-frequency generator is used, and an assistant is useful to turn the current on and off at the power

*Harry Eaton Stewart, "Diathermy and Its Application to Pneumonia," Paul B. Hoeber, Inc., New York, 1923.

switch at the operator's direction and adjust the spark gap when needing adjustment for increase of effect. But the assistant may be dispensed with when using a foot push-button and intermitting the application to adjust the gap.

With the desiccation electrode connected with the Oudin terminal by a conducting cord or fine wire so supported as not to sag near the patient, the point is rested on the growth, the weakest current turned on, when the point is retracted an eighth of an inch. The fine spray arc will immediately whiten a part of the growth, and this is kept up, with more power turned on if necessary, until complete desiccation appears probable. The crust is now curetted away and the application repeated to the deeper parts, carried well into the peripheries. The crust may now be covered with collodion or a dry dressing for a few days, a good protective ointment, such as one part zinc oxide ointment to nine parts petrolatum, being used as the crust separates and the wound granulates.

Details of the Direct-Current Destruction of Small Skin Epitheliomas

An ordinary galvanic battery with controller and meter furnishes ideal power for this work. In its absence, a 22½ volt B radio battery may be used, or a 45 volt battery for the larger growths. The only difficulty in using the radio battery of dry cells, which may be bought almost everywhere now, is devising a means to turn it on, cell by cell, after the electrode is in position, to avoid unpleasant shocks. If the tops of the cells are accessible, this may be accomplished as follows:

Attach the fine wire conductor of the active electrode, or electrodes, permanently to the positive pole of the battery. The indifferent, negative pad (which may be made of a folded towel soaked in warm soapy water and placed on a distant skin surface, over which is laid a sheet of tinfoil with a fine wire attached to one corner by threading and wrapping) is connected to the negative binding post. This wire should be doubled; two ends being attached to the negative pad and the other two free. With the active electrode inserted in the growth, one of these free wires is attached to the negative pole of the third cell, thus turning on a little current. This is gradually increased by attaching the second of the "split" wires to the fourth cell and then detaching the first and repeating this until sufficient action appears at the electrode, being careful not to break the main circuit. Aside from the trouble of these connections and disconnections, this method of turning on current has the disadvantage of temporarily short-circuiting each cell while both of the split wires are attached, but permits quite a smooth turn on. A meter may be dispensed with in these small skin growths, the strength of current needed being determined by the effects.

The active electrode is a sharp, pointed sliver of zinc, cut with tinner's shears or a pair of short-beaked surgical scissors from one sixty-fourth zinc plate, such as used by stove dealers (not galvanized iron). It is attached to a suitable length of No. 32 or 34 fine copper wire as conductor by wrapping an end of the bared wire around the butt end of the electrode, bending the electrode over the wire, and clinching with pliers.

This light, fine-pointed electrode should be supported after insertion by guying the wire near its attachment to the electrode to the nearby skin with a strip of adhesive plaster.

The electrode is inserted into the middle of the small growth, pointing to the periphery. In all but the smallest growths, better work is done by using several such electrodes inserted at once, with their combined wires attached to the positive binding post.

With the pad in place and the electrode, or electrodes, inserted, the current is turned on gradually, as described, to the strength tolerated by the patient, and maintained until the whole of the growth and a little of the surrounding tissue have become densely white from the union of the zinc ions formed by erosion of the electrode with the protein of the growth. This will require from thirty-five to forty minutes. The current is then turned off the radio battery without material shock, by merely sliding the plate of the indifferent pad slowly off the pad.

The after-treatment is the same as that described for the high-frequency application.

Diagnostic Study of Dementia Præcox*

By R. S. E. MURRAY, B. A., M. D., National Military Home, Indiana**
Director of Laboratories

IN this short monograph, an earnest effort shall be made to decide the position of our front-line trenches in respect to one salient in the battle against disease of the nervous system. At the outset, let us foster a clear conception of the subject in hand.

Primarily, psychiatry concerns the study of disease of the brain, because part of the cerebral function deals with the mental processes. The brain parenchyma is composed of nervous tissue, hence, psychiatry is the intensive study of a particular part of the nervous system. Of course, in its ramifications, psychiatry may be seen to embrace practically the whole field of neuropathology. Modern research psychiatry emphasizes the rationality of the stand that practically all mental disease is merely symptomatic of underlying brain disease and by no means *per se* a pathologic entity. Even when the mental aberration is entirely the result of a chemical misbalance, as in the alcoholic hallucinoses, morphinomania, or one of the thyroid dyscrasias, still the immediate cause of the abnormal mental reaction is due to disease of the brain parenchyma.

Referring to dementia præcox, itself, our concern in diagnosis is with disease entities and not with mere grouping of symptoms. It is recognized that similar trains of symptoms may arise from widely different causes. For example, a man may have a severe tachycardia, dyspnea and the facial expression of extreme air hunger. Do these things establish a diagnosis? One would even hesitate to decide between pathology and physiology without knowing the underlying cause. Much less would one dare to classify the actual disease. Could not a participant in the Olympian games be so affected? In justice to the art of medicine, it is desired to remove the inclination to group certain symptoms into disease entities.

The modern trend is, always to base diagnosis upon causes. This is rational, as it constitutes the first step toward eliminative therapeusis and prophylaxis. "Consumption" gives way to "tuberculosis." "Thyrotoxicosis" is replacing "big neck" and "goiter." We speak of "caisson-disease" rather than "the bends" and "dropsy" becomes merely a symptom. The only justification for grouping symptoms into disease entities lies where an absolute ignorance of the cause is frankly acknowledged.

Is this entirely the case with "dementia præcox?" Hardly, in the light of recent researches. In dealing with the central nervous system, the effect of delicate biochemical alteration and slight histopathological change is often of tremendous significance, and our laboratory methods are not behind-hand with sensitive tests and instruments of precision. Witness the work of Folin on the one hand and of Alzheimer on the other. Has not the recent discovery of insulin given us a vista of biochemical research truly enormous in its expansiveness? To a skeptic, who would question the effect of toxic infections on the brain, the elaborate post-mortem records of the State Hospital for the Insane at Norristown should be convincing. Let us then consider dementia præcox as a disease entity and not a mere collection of abnormal mental reactions.

In regard to the true scientific side of the argument. let us digress for a moment. Science is the study of the exact and intimate relation between cause and effect. To state that every effect has a cause, is banal. The existence of a definite cause is no less a certainty because it is hidden. And yet, even the *literati* are heard to remark that "things just happen." All events are absolutely sequential, as beads on a string. This axiom gives us the courage to persevere in spite of repeated failure. I do not hesitate to remark that that day is not far distant when science shall illuminate every abyssmal depth of every obscure origination. Therefore, let us guard against cloying this progress by yielding to the minions of "force of habit" and of "as it was in the beginning, is now, and ever shall be." Finally, to avoid any misunderstanding, let it be stated that this article deals more particularly with the earlier manifestations of dementia præcox, *en vérité*, with that stage of the disease in which ac-

*I am indebted to Dr. Wm. McLake, Medical Director and Superintendent, for permission to publish this monograph.

**The National Military Home, Indiana, is the Indiana Branch of the National Home for Disabled Volunteer Soldiers.

[Since writing this article, Dr. Murray's activities have been transferred to the Johnson City National Sanatorium, Mountain Branch, N. H. D. V. S., National Sanatorium, Tenn.—Ed.]

curate, scientific diagnosis is most valuable. In any case, it is not true that the older cases with permanent damage to the higher cortical areas really tend to occupy a different category?

Basis for diagnosis.

Almost invariably the diagnosis of dementia præcox becomes tenable through a process of elimination, which involves a careful and minute investigation of four main sources of information, namely; the family history, case history, mental state and physical state. (This latter will include all laboratory diagnostic procedures.) Fallibility in the diagnosis of dementia præcox will vary indirectly as the development of skill in the nice evaluation of every single increment of information bearing on the case obtained from the four abovementioned departments. Furthermore, it will be shown that, the greater the exhibition of scientific acumen in the work, the lower will be the percentage of admissions to our hospitals, finally diagnosed as frank uncomplicated cases of dementia præcox.

Family history.

In dealing with these four phases of the examination, let us begin with an understanding of the merits of the family history. Numerous writers are conceding that the incidence of dementia præcox with a clear-cut family history of a psychotic diathesis is less important than was heretofore considered. It is admitted that certain families have shown an almost extraordinary tendency to produce criminals, idiots and lunatics, but the family history cannot be evaluated on this evidence. Numerous cases, without precedent insanity on either side of the house, have occurred in the best families, where living conditions have been almost ideal. This certainly tends to reduce the high value formerly placed upon the family history, as does also the fact that norms aplenty come from dementia præcox stock (1). That any form of insanity is an inherited weakness of the germ plasm, is an untenable hypothesis, not excepting Huntington's chorea. In the latter, we can recognize certain regularity of familial manifestation, yet the true cause still lies hidden. Defection is not hereditary, else the race had perished centuries ago. If the family history is to be of any value at all, it must be approached scientifically. Such sentences in the history as "his mother was said to be peculiar," or "the brother has fits" or "the father was a bad-tempered man" are of relatively little value unless carefully analyzed by a trained, disinterested individual. This, of course, constitutes the field of the social worker who should be thoroughly well qualified for this particular phase of the work and remunerated commensurately. Social research can produce an awful conglomeration of statements or it can wonderfully illuminate nearly every point in the family history of a mental case. Important items in the family history, but no less so than the exact nature of the mental aberration, will be habit, health, personality, social status, each or any of which may be found to be a predisposing factor.

I would estimate the value of the family history in the completed protocol at an outside figure of ten percent.

Case History

Dealing with the second item, namely, the actual history of the case itself, presents a little more emphatically the need for special training. The examiner should be in a position to obtain satisfactory replies, either from the patient, his associates or the social worker, to every question even remotely bearing on the case. Sincere familiarity with a definite history-taking scheme is an absolute necessity. The use of a questionnaire chart is to be encouraged, particularly where researches are concerned. A large amount of work may necessitate certain short-cuts which will readily suggest themselves to the scientific psychiatrist. The practice of a thorough interrogation concerning all previous diseases and complaints, from which the patient has suffered, also alcoholism and drug habit, is too apparent an observation to require much elucidation here. Any specially good points in the history, such as the occurrence of scholars, mathematicians, inventors, etc., are worth noting. The occurrence of family longevity would give indirect evidence of inestimable value, as disease undoubtedly tends to induce a reduction of the life expectancy of the organism.

A value of fifteen percent might be placed upon the case history.

Mental Examination

Of the four departments of investigation, the mental examination is second only in importance to the physical. That the experience of the individual in charge of this work be unquestioned is manifest. He should have the advantage of all data obtained previously from the family and case histories, but not necessarily the physical (and laboratory) examination data. Much annoying equivocation may be saved in a full and unbiased cor-

roboration of these histories. As with the case history, a definite examination scheme is advisable, so that no point may be overlooked. This may be very time-consuming, but the justification will be easily visualized in the results. At this stage, no serious attempt should be made to diagnose the case. The examiner should studiously guard against the psychological effect of the interrogation upon himself, else he will fall into the habit of unconsciously endeavoring to make the case fit a preconceived diagnosis. In other words, there is a liability towards asking questions which will support one diagnosis, to a loss of information in support of another. The initial step in the elimination process is taken at this juncture, namely, in the decision between psychic inferiority, or feeble-mindedness, which is an incurable embryological defect and true neuro-psycho-pathology, which is acquired outside the intrauterine life and is more or less curable depending on the type, duration and intensity of the causative factor, be the latter known or unknown. The Binet-Simon, Yerkes-Bridges and other ingenious intelligence scales have their usefulness applied there. Dementia præcox is strictly neuro-psycho-pathological, although it may be complicated by any degree of neuropsychic inferiority. The examiner will endeavor to establish the cause of the insanity as psychogenic or somatogenic. Recent tendencies in psychiatry tend to show that true insanity, dementia præcox in type, of clear-cut psychic origination absolutely uncomplicated by any other disease entity, is less common than heretofore considered. "Uncomplicated," in the strictest sense of the word is intended. The slightest question of any focal or systemic infection would be sufficient to disqualify the case from this classification, at least until thorough investigation of the infection. The entire determination of this purely psychogenic type will rest with the mental examiner. The diagnosis will be his responsibility. Aside from this, his work will be but to classify academically the mental vagaries of each individual case, and again it must be borne in mind, that any diagnosis of dementia præcox at this stage will be reached simply because the patient's mental symptoms more easily fit into this classification than any other. It will be an advantage to have a complete detailed physical status of each case and to study it with the histories before attempting a diagnosis.

I would award the mental examination 25 points out of the possible hundred.

Physical Examination

We now reach a discussion of the fourth department in the examination, and it is the most important one. The physical condition of the patient is the *sine qua non* of the diagnosis of dementia præcox. By physical condition is meant a complete and detailed analytical examination of all the various systems into which the body is anatomically subdivided, including function and chemistry of each one. I shall not append a tabular scheme here, as this can be worked out to suit the plans of each investigator and the instrumentarium at his command. Suffice it to say that apart from a thorough neuromuscular examination of reflexes, alternations in skin sensations, etc., otoscopy, ophthalmoscopy, chest work, dynamometry, identification of stigmata, etc., the laboratory diagnostic department of a hospital should be employed to the utmost limit. This field should be completely equipped and kept up-to-date. All apparatus, furniture and chemicals should be held in readiness to pursue not only the routine, but also the research side of scientific psychiatry. This will include equipment for blood-serum and spinal-fluid work, routine urine and blood work, roentgenology, bacteriology, basal metabolism (2), gastrointestinal and blood chemistry, pathology and electrocardiology. No stone should be left unturned. All teeth should be x-rayed; sinuses examined; head skiagrams taken; blood and spinal fluid Wassermann tests made and prostates milked in all venereal suspects. Bacteriological investigation should be pursued wherever suggested.

Progress indicates that the future holds a greater stress on the higher chemistry of the body fluids, both liquid and gaseous. The value of the exact hydrogen-ion determination by advanced methods of electropotentiometry is beginning to receive merited recognition, as is also the nice estimation of gaseous exchange in the lungs and vascular system (3). The interpretation of electrocardiograms is no longer a profound mystery. With this delicate instrument, the early effect of toxins on the myocardium can be read with little or no uncertainty. Furthermore, if the cost of indefinitely hospitalizing patients can be balanced against the cost, though initially high, of establishing research laboratories in each state or provincial institution, it will be found that the laboratory expense is mere bagatelle in comparison to the immense saving of public funds, in the readmission to social and economic prestige, of people who might other-

wise become permanent public charges. Also, it is well to remember the inestimable value as a stimulus to the medical staff, which a well-conducted research laboratory fosters. In these regards, Cotton's work at Trenton is proving of vital interest (4).

The Internist Psychiatrist

One man, preferably a keen internist, can best handle the interest involved in this examination of the patient's physical state. But, several highly-trained individuals working under his direction will be required to perform all the multitudinous tasks entailed, particularly so, in a large hospital. Only in this way the various toxemias, foci of infection, and systemic diseases can be scientifically investigated. For instance, on the one hand, the removal of infected teeth and tonsils may promote improvement and a return to health. This being the case, a previous diagnosis of dementia præcox, aside from a mere classification of symptoms, is misleading to the physician and grossly unfair to the patient. In regard to the latter, it must be remembered that, until recently, the diagnosis of dementia præcox assumed a bad prognosis, which in itself is a serious deterrent to pushing therapeusis. On the other hand, no improvement may result from removal of infected teeth and tonsils, but this is no signal to call a halt. The infection may have passed on to the stomach or intestines. Duplicated fractional gastric analysis, gastrointestinal x-ray work associated with a study of the bacteriology; gall-bladder drainage—some of these activities may identify the location of the focus. All these things should be consummated with as little delay as possible (5); for, once the higher cortical areas are damaged by toxins, neurolysins or actual bacterial invasion, the chances for complete recovery are greatly reduced. And, of course, as projected by Hughlings Jackson, it will be the higher intelligence areas of the frontal cortex which will deteriorate first.

Let us consider every mental case a perplexing conundrum. Let us avoid the snap diagnosis. A problem is presented. The solution may be simple or it may remain defiant. But, in any case, let the whole individual organism be thoroughly investigated. Let work connected with the blood, urine, spinal fluid, gastrointestinal tract, sinuses, head, heart, lungs, teeth and basal metabolism be routine. Special-sense and other special examinations should be made, as indicated. Only in this direction lies the hope of the mentally afflicted. To satisfy ourselves with the mere classification of symptoms and the discussion of occupational therapy, is not very laudable and, for a medical staff to spend hours each week in argument over the diagnosis of dementia præcox, hebephrenic, catatonic, paranoid, when detailed laboratory investigation and therapeutic need cry for attention, is simply a heinous waste of professional time.

I would give the fourth department of the physical status of the patient the remaining fifty points to complete the case protocol.

In conclusion, let us welcome any suggestion whatever, that seems at all logical, and put it to the acid test. Without a doubt, we shall encounter a few "turtles" sponsored by a Friedmann or so. But these things should act as "spurs" rather than "thorns." The physical status of the patient can be as thoroughly tangible as we choose to make it. Furthermore with the perfection of scientific instruments, the personal equation in both, patient and examiner, is beginning to dwindle. The very antithesis of tangibility mantles the philosophical dissertations on psychogeneticism and Freudianism. Not that these things are without value; that is far from being the fact. But, that the solution of insanity—that the solution of dementia præcox—lies wholly in these studies, is a grave misconception. Let us nurture the idea which some of our great students give us, that dementia præcox is rigidly organic, and let us challenge science to solve the riddle. Let us strive to overburden our diagnostic laboratory departments, and the stronghold will eventually yield to the onslaught (6).

With family history, case history, mental status and complete physical status, all scientifically investigated, we are now in a position to make a diagnosis. Shall we say "dementia præcox" with infected discharging sinuses or sloughing tonsils or venereal disease or any other pathology present? Decidedly not, or at least not until the effect of these various conditions is carefully noted. Furthermore, it does not take a very large amount of toxic material to mightily effect the health of the whole organism. If we are truly scientific, we shall find that the diagnosis of dementia præcox attaches to a rapidly diminishing group of cases whose pathology is unknown. True dementia præcox becomes an idiopathy, but, in the light of modern researches, it is hoped, not for long.

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The Etiology of Typhus Fever

By SOLOMON R. KAGAN, M. D., Boston

Formerly Chief of the Zemstvo Hospital in Crimea, and Government Physician in Visiting Physician to the Konstan Red Cross Hospital Typhus Districts of Rostov.

TYPHUS FEVER, as is well known, is transmitted by the bite of the body louse whose body harbors the infective agent. The pediculus vestimenti conveys the typhus virus by the bite from the infected patient to a susceptible individual. The infective agent is transmitted not only by means of the saliva but also by the intestinal contents of the louse. Arkwright and Bacot suggested that infection may occur by means of the excreta as well as the actual bite of the louse (1). The virus in louse excreta can enter the body through abrasions or wounds. That condition is probably the pathogenetic factor of typhus in the laboratory workers. It is not unlikely that Bacot and Schüssler met their untimely death after a laboratory infection with typhus, in which the virus was introduced into the eye or the mouth by the finger (2). Of my 2325 cases of typhus during the recent epidemic in Russia (1917-1921), only 865 had a history of a louse bite.

A series of articles, during 1921-1923, reporting the results of clinical and experimental investigations concerning the virus of typhus, has shown real progress in this problem.

Marzinovsky (3) has found in the plexus choriodeus a large amount of small fusiform bodies similar in shape to trypanosoma. They stain by Mason's method. He claims that these bodies are parasites, possibly the etiologic factor of typhus fever.

Barikin (4) observed in the blood of typhus patients spirochetes similar to those described by K. Fritaky and Rickettsia prowazeki. Barikin observed, in the organs of patients with typhus (127 cases) and in those of guinea pigs infected with typhus (151 cases) round non-motile about 0.2-0.3 microns, staining red by Gimes method, but gram-negative. He calls these bodies "Microbin typhi exanthematici."

Nicolle supposed that the typhus virus must be in the body of the louse for not less than five days for the cycle of development, and only then it becomes infectious. However, Barikin (5) disproved this by the following experiments: Out of seventeen guinea pigs bitten by a louse infected with typhus virus, only one or two days old, twelve were infected with typhus fever.

The latest investigations show that the specific microorganism of typhus fever is Rickettsia prowazeki. It is named in honor of its authoress, who died from this malady. This microorganism develops only in the intestines of lice which are infected by a patient with typhus fever. Thus, Professor Weige was infected with typhus fever while he was engaged in investigations of Rickettsia prowazeki preparing cultures of artificially-infected lice. Professor Weil, of Prague, died from typhus fever after he injected into himself a small dose of artificially-prepared culture of living Rickettsia prowazeki. Dr. O. Krukvovsky contracted the disease when he injected into himself a small amount of an emulsion of the above-mentioned virus. The woman in the laboratory of the Lvoff Institute took sick also with typhus when she prepared a culture of lice that were infected with Rickettsia prowazeki (6).

The experiments upon animals also confirm this statement. The emulsion of Rickettsia prowazeki, when injected in a guinea pig, causes typhus fever. When injected in a rabbit, it produces the agglutination of proteus which is typical for typhus fever (Weil-Felix reaction). The brain emulsion of a guinea pig affected with typhus, when injected into the intestine of lice, produces a typical multiplication of the Rickettsia prowazeki.

For laboratory workers, it is best to use the Rickettsia prowazeki in the form of an artificial culture of infected lice. By means of a capillary tube, a certain amount of an emulsion of Rickettsia prowazeki is brought into the intestine of healthy lice. The technic is sterile. The secretions of the experimental lice are examined before the introduction of the virus, and later, when the lice become

infected, they are kept continuously at a temperature of 31-34 C.

The experiments produced in the laboratory of the Lvoff University, by O. B. Krukovsky and by Weige (7), gave the following results regarding the agglutination test produced by the typhus virus Rickettsia prowazeki:

1.—In the body of patients with typhus, there are specific agglutinins for Rickettsia prowazeki and Proteus X_{19}.

2.—In the body of a guinea pig which is infected with blood taken from a typhus patient in the fever stage, there is agglutinin only for Rickettsia prowazeki. The result is produced by the injection of an emulsion of living Rickettsia prowazeki.

3.—In the body of rabbit infected with blood of a typhus patient or with an emulsion of living Rickettsia prowazeki, there is produced agglutinin for Rickettsia prowazeki as well for proteus X_{19}.

4.—In the body of a rabbit infected with proteus X_{19} there is produced agglutinin only for proteus X_{19}.

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Faith, Hope and Charity

By J. HENRY DOWD, M.D., Buffalo

"FAITH, hope and charity, but the greatest of these is charity"; so runs the Bible quotation. To discuss the question of charity from the standpoint of the medical man, would be a loss of time. We all know, and those that have had to avail themselves of charity know that, in no commercial pursuit, is there, or has there ever been, a greater amount of charity dispensed than that given unhesitatingly by the medical profession.

But, there is one other form of charity that we, as physicians, must understand and carry out, as far as it is possible. One of our greatest statesmen once said: "All men are born free and equal". Had he been a physician, and especially had he lived at the present day, he might have agreed fully with the writer, that, as for bone, flesh and fluids, probably we are all born equals. But, when it comes to that great biologic force, the mind, which is the motive power of life, he would have to acknowledge that there are no two alike; that they have not been made different by environments, but were born different.

"The ne'er-do-well". How many of us, with discernment, cannot picture two children, both born and reared under the best of environments, with all possible advantages? Yet, one forged far ahead of the other, as time passed on.

With the latter, we must be charitable; they deserve the same amount of charity as though they came under our care in the public wards of the great hospitals of today. For, discontented many are born; discontented they will die. However, it is not the writer's purpose to preach a sermon on this text, only to call to the attention of physicians the importance of the first suggestion, *faith*, and this from (let me say) a psychological standpoint, which it must be admitted it is.

Every practitioner of medicine, whether he be in the city, town, or at the four corners, knows that cultism is on the increase.

It may be looked upon with suspicion, even jealousy, on our part. We know that the practitioners of these different isms know virtually nothing of diagnosis and less about treatment, except from one source: the mental impression that they make upon the poor, deluded individuals.

That this impression must be made upon an unobservable part of the human economy, is a foregone conclusion. It is upon the mind that it must be made, and not by medicine; not even by knowledge alone, but by the same methods that they, the charlatans, use; namely, *Suggestion*.

It is true that the body, the flesh, bones and fluids, should be our object, since those parts we can see and examine carefully. But, the man who stops here will be a failure.

It will be admitted that the other factor, like air, gasses or electricity, is unobservable. Yet, it does exist and is a force that must be dealt with constantly. I refer to the mind.

Here, we find a something that cannot be treated by drugs, or by surgery. There is but one way to care for it. The impression that we must make must be made upon the indi-

vidual's mind.

It is a question of the creation of faith or confidence in us and, if possible, a confidence that will be lasting. A goodly proportion of the American public today, and especially the female class, is very susceptible to suggestion. It is not only in dress, or even the bobbing of the hair, that they follow the example of another, but also in regard to their health. Not only we, as physicians, but their friends and relatives can testify to this truism; for, the supposedly ill individuals not only keeps the physician in what might be termed "hot water", but all those that come in contact with them.

It must be intimated most carefully; but, nevertheless, it is a fact: To a great extent, and not only in organic disease but especially so in functional troubles, the mind is as much at fault as is any discoverable cause. Yet, if we are to be successful, we cannot stop at mental impressions alone, for there is much truth in the statement, "a healthy body is necessary to a healthy mind". Therefore, in our calling, we must confine our advice, of necessity, to those that consult us for illness; and, in this connection, it is found that two varieties exist: the functional and the organic.

Functional Disease

It is elementary, but a fact that must not be forgotten: Organic disease always has an underlying condition that acts as a cause of the trouble in question. It may be inflammatory; irritation; new growths; injury, etc., but, it is always present and is easily and quickly found in a great majority of cases. In this condition, we find well-defined symptoms and located at a specific point, where they remain as an indication of the underlying cause.

On the other hand (and it has been the teaching since time immemorial), in the functional conditions, there is no pathological condition to account for them. But, patients have not been recovering, therefore investigators have investigated and, as a result, we have discovered the local foci of disease. As to the location of these foci—that all depends upon what specialist is consulted, for each one has been able to find a cause for disease in his own chosen field.

What, then, of the complaining witness? Thousands upon thousands of tonsils have been removed, also car-loads of teeth; sinuses have been obliterated and intestinal coils pulled back into place. Yet, very soon, the ailing individuals reappear with all symptoms just as bad as, if not worse than, before they submitted to radical measures.

That there is a cause for these conditions, cannot be denied any more than can the fact be denied that there is a cause for any and every alteration from a normal procedure, whether it be affecting an automobile or the general state of daily business transactions.

No positive and fast rule can be given as to the differentiation of organic and functional troubles. Suffice it to say, however, in the functional variety, pain, which is a most common accompaniment to all disease conditions, is, generally speaking, of a wandering nature; that is, it is rarely confined to one given locality for any length of time and, if pressure is made upon the spot, it rarely increases the pain. Almost the very opposite is found to be the case with pain of an organic nature. This is usually stationary and is increased by pressure. Virtually all persons suffering from organic disease are either confined to their beds or in some way show incapacitation to a more or less degree. Fever and a rise in pulse rate may occur in very nervous individuals also and are commonly met with, whereas, in functional conditions, they are rarely, if ever, observed.

The Body Chemically Considered

Viewing these conditions from the standpoint of treatment, that is, where the body is the involved factor, we must look upon it from its composition, which is a chemical compound consisting of many elements and which must be present in practically normal amounts, if we are to expect normal action, without accompanying symptoms. And these are always present if there is any appreciable lack of essential elements, especially so if they be of a nutritive character.

It would be obviously impossible to go into the subject of the different chemical compositions of the human body to any extent, but there are two most vital to life, and these bear the same relation to perfect health as does the complete combustion of coal or oil to the production of heat for the generation of steam.

I refer to iron for the red cells, and phosphorus (this element is a constituent of every cell in the body) in the form of lecithin and nuclein for the nerve cells.

These must be considered as purely nutritive; they are the life-giving properties of the cells and, unless they are present in practically normal amounts, trouble will quickly manifest itself. This manifestation occurs in different forms, but can be easily discovered and remedied, as can be proven by the disappearance of symptoms. We know that the diagnosis

of any disease, even today with the great strides forward in medicine, is more or less of a guess. Authors tell us that seventy-five percent of illness will disappear of itself, if let alone; that ninety percent of patients recover, even though the diagnosis and treatment be wrong. If this is a fact, there is but one way to judge the correctness of a diagnosis: A quick and permanent relief from our administered medicines or surgical procedures. That the absence of the above-mentioned nutritive agents can be easily and quickly ascertained, is the matter of but a few minutes. If they are wanting, and the deficiency is supplied, there can be but one result: a disappearance of all symptoms, with a return to health.

Examination Quite Simple

Contrary to the accepted belief that expensive apparatus and expert technic are necessary for the ascertaining of anemia, the writer will state that five minutes spent with the urine will give as much and as valuable information as anything used in any laboratory.

Albumin in the urine is due to the leaking of blood serum; wherever this leakage occurs, albumin will be found. Thus, we have it in all acute and even, at times, in chronic inflammations. Acute gonorrhea, cystitis, pyelitis and the leakage of prostatic fluid into the urethra will be accompanied by albumin.

Albumin may or may not be present in Bright's disease; especially the interstitial variety may continue for years without showing the presence of albumin.

In certain valvular disease of the heart, where there is a backward pressure exerted upon the veins, albumin may be present due to the congestion of the kidneys.

Eliminating the above-mentioned conditions, inflammation, Bright's disease and valvular trouble; albumin found in the urine is due to a want of hemoglobin (indicating anemia) and is caused by disarrangement of the normal pressure between the vascular tension and that in the tubules. (The urine must always be filtered, unless absolutely clear, before examining for albumin.)

The following case report must show the value of a few minutes' exertion on the part of the examining physician:

> Rev. S., for a long period, headache; only temporary relief from home remedies and even after consultation with a physician. Was advised that eyes might be the cause. Oculist reported very little trouble, but corrected that present. No result; he was referred to the writer. As to physical appearance, the man was in perfect condition, but examination of the urine showed considerable albumin; nothing else of a pathological nature was evident; the Phosphatic Index was NP, with crystals not showing a want of nerve cell nutrition. Basham's mixture was ordered. In three days, the headache ceased; it has not returned in three years. This man was anemic.

Nerve-cell nutrition differs in many ways from that of the red cells. Here we have cells that, collectively speaking, are called the brain and nervous system, and which furnish action, sensation and motive power for every organ, every cell in the body. Nutrition also differs from that of any other group of cells, in that a reserve is created, which may be used in times of emergency, when from any cause sufficient nutriment cannot be obtained from the food consumed.

It is only reasonable to suggest, that, if we are to have normal action, the reserve must be in a practically normal state at all times, and used accordingly. But, to-day, when every individual is operating at full speed, when, in fact, the great majority exceed that, there can be nothing other than the cold fact, that sufficient nutrition is not furnished from the partaken food. Thus, the reserve is called upon as an emergency to make up the deficit. The result is but one: Sooner or later, depletion takes place, and with it systemic disarrangement.

It has been stated that every movement, every action, every function of the human being derives its force from the brain. That this is so with all organs or glands that function, is unquestionable, and especially is it a fact with the organs of digestion, those that handle assimilation, metabolism, etc.

Therefore, barring the high tension at which we find most individuals today; if we add to it improper digestion, etc., we have one more factor as a cause in nerve-cell impoverishment.

Ascertaining the Phosphatic Index is almost as simple a procedure as that for hemoglobin. Using the second urine passed in the morning, which should be free of any appreciable amount of earthy phosphates, fill phosphatometer to U, add solution* to S, and set aside for *ten minutes.*

If, at the end of ten minutes, the precipitate is at NP (in a practically solid mass) the nerve cells as a factor in any cause may

be ignored, no matter what may be the symptoms.

If it remains above NP (solid) it indicates irritability or a hypersensitive condition of the nerve cells, and a sedative is called for.

If it goes below NP or will not sink at all, nutrition is low and must be supplied artificially.

Conclusions

1.—Establish confidence at once in all patients complaining of illness. This, of course, must be through physical measures, but these must be backed up with knowledge that is imparted to them by a relief of the condition from which they complain.

2.—Make them acquainted, as far as possible, with the condition that is found, but always tell them the truth. Otherwise it will surely come out later, and may react to your disadvantage.

3.—Where the condition is found to be due to a want of nutrition, or where nutrition is abnormally used, a simplified example of the condition may make things clear for them.

4.—A picture may be drawn of a plot of ground that will not produce a satisfactory crop: the farmer becomes irritated and sends a sample to the Agricultural Laboratory. An examination reveals that the soil is depleted, (a minus index in the human) worn out, so to speak; (in the human being this answers to neurasthenia); that nutrition in the form of phosphates is required, later resulting in a bountiful crop. The farmer is appeased his irritability disappears.

On the other hand, the examination may reveal that lime is indicated, and the same result ensues.

5.—It is merely a question of not guessing but of ascertaining the true causes of the condition and treating them according to the findings.

*Magnesium sul., Ammo. Chlor., water of ammonia (10 percent, common kitchen variety), of each one ounce, water eight ounces, mix, filter; let it stand for a day or two before using, to allow thorough saturation.

437 Franklin St.

On the Effects of Valerian

By E. AHLSWEDE, M. D., Buffalo, New York

VALERIAN is probably one of the oldest known among the healing herbs. In popular medicine, the various preparations of valerian, alone or in combination with other herbs, are prominent. For instance, the combination of valerain and foxglove was known to the English herb women at the end of the seventeenth century.

Only quite recently, combinations of digitalis glucosides, morphine and valerian are again coming to our attention. In studying the effect of valerian upon the weakened heart muscle, when symptoms of insufficiency were slight, it was found that valerian exerts not only a sedating but also an exciting action. This made it very probable that there were present two different chemical substances which might be employed separately, according to need, and so could exert their special action all the better. Pharmacological research led to the isolation of isovaleric acid which alone is responsible for the sedative action of valerian. In extracts of valerian, this isovaleric acid is bound to an alcohol possessing exciting action.

We have long known a very large number of alcohols with narcotic action and the idea suggested itself to combine these alcohols with isovaleric acid in order to secure a stronger sedative and, at the same time, a narcotic effect. Mehring was the first to produce a synthetic product of amylenhydrate and isovaleric acid.

In these alcohols with narcotic action, the lipoid solubility is of great importance. The greater the lipoid solubility, the more rapid and more intense is the action upon the ganglion cells of the cerebrum, which are mainly concerned in the occurrence of the narcotic action.

This property of greater lipoid solubility on the part of the alcohols with narcotic action is the reason why these alcohols are useful as vehicles for narcotics which are not lipoid-soluble of themselves. Bräutigam, for instance, has established the fact that, in a combination of amylenhydrate and isovaleric acid, the action of the amylenhydrate becomes manifest in notably smaller quantities than outside of such a combination. Of this combination, 0.5 to 0.75 Gram are sufficient to produce an effect corresponding to that of 3.0 Gram of amylenhydrate. It is evident that the danger of irremediable damage from the amylenhydrate is diminished markedly by this employment (in combination) of minute amounts; one more reason why the study of further combinations of narcotic alcohols with

narcotics is important.

I wish to call special attention to the possibilities of a combination of a narcotic alcohol with a narcotic and some remedy having specific action upon the heart muscle, for instance, a digitalis glucoside. Digitalis and valerian support each other excellently, in the absence of the exciting alcohol which is a constituent of valerian, because of their common action upon the vagus. The sphere of action of these remedies takes in all organs that are supplied by this nerve. For instance, Simonsohn reports results in motor unrest of the gastrointestinal system. Zahn and Kaiser, also Thalheim, have obtained satisfactory results in nervous gastric distress. Especially in gastrointestinal neuroses, the usual valerian preparations have frequently failed because their exciting component was active in variable intensity in the individual patients.

This exciting effect of valerian is disturbing likewise in combinations with tinctura opii simplex and phosphoric acid, and frequently negates the desired results. Birnbaum observed the splendid action of a suitable combination of valeric acid and amylenhydrate in the frequent disturbances of gastrointestinal function during the climacterium.

In numerous other chronic ailments in women, which are associated with nervous symptoms, these valerian preparations in combination are also indicated.

For the present, this combination referred to will afford the greatest service in slight disturbances of the function of the heart muscle, in pure heart neuroses, also in circulatory disturbances that are referred to excessive nervous impulses. However, the effect of these combinations may be extended to all psychic depressions and states of irritation—that large class of irritable weakness, nervous dysmenorrhea and purely nervous impotency. In the latter, especially, I have often seen splendid results from it as associate treatment together with psychic therapy.

Levinsohn and Hapke report good results in treating attacks of bronchial asthma. Patients whose peripheral vessels are dilated, as happens frequently in nervous irritability may have to be subjected to certain manipulations, for instance, slight operations in parts that are well supplied with blood. In such cases, Stein has seen good results from ordering this valerian combination before operating. Lauff thereupon introduced the remedy in question (Valamin) into nasal therapy and has succeeded in diminishing hemorrhage through simply influencing the nervous system, a result that otherwise can be secured in sufficient degree only by injections of adrenalin and by local hemostatics.

In simple, nervous insomnia, the remedy has proved its value. Since the effective doses of the amylenhydrate are very small, the remedy may be given with splendid success in patients who are to be influenced mainly psychically. In the distressing forms of insomnia, in arteriosclerotic patients, the remedy is of benefit, in part, because of its undoubted action upon the smooth muscular fibres of the vessel walls. It may further be of service in removing the difficulties of hypnosis; and, undoubtedly, narcohypnosis is bound to gain increasing importance in the hands of the busy nerve specialist.

The possibilities of valerian preparations are not exhausted in the foregoing remarks. It will not do to neglect specifically active remedies in favor of valerian; but, even in specific diseases, like lues cerebrospinalis, it is not possible to do without narcotics. It is of great importance for the final success of treatment to secure a calming effect upon the psyche of the patient.

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Surgical Seminar

Conducted by GUSTAVUS M. BLECH

SURGICAL ERROR NO. 3

This Exercise, which was published in the June issue of CLINICAL MEDICINE for discussion, refers to a physician who resorted to uterine dilatation for the relief of sterility in the case of a young married woman with what was palpably a history of gonococcal infection, some time since.

The result of intrauterine instrumentation was a peritonitis which nearly caused the death of the patient.

The requirements called for a brief discussion of the error involved.

Discussion by General George Acheson, Kingston, N. B.

Many years ago, Ricord wrote, "When anyone has once acquired gonorrhea, God only knows when he will get well again." If he had written "she," instead of "he," he would have been even nearer the truth.

In women, gonorrhea selects, by preference, the internal organs of generation, and upon their extensive mucous membranes the resistant gonococcus finds a favorable habitat and hiding place. Especially is this true of the cervix uteri, where, among the numerous folds of mucous and glandular tissue, this organism may lead a quiet, retired life for years, giving little evidence of its existence, but ready, on provocation, to assert its masterfulness, and carry on with all its old-time vigor.

In the case under discussion, no doubt the trauma caused by the Goodell dilator started up this virulence, and opened up channels of infection to the pelvic peritoneum.

The absence of gonococci in a vaginal smear proves nothing. All of these victims of former gonorrheal infection are poor cases for surgical operation, and should not be subjected to operative measures until, by suitable preparatory treatment directed against the hidden organism, the surgeon has assured himself of its absence.

Discussion by Dr. I. E. Crack, Hamilton, Ont.

To dilate a cervix, in an attempt to cure a sterility due to an old gonococcal infection, was certainly an error. Had the surgeon gone thoroughly into the history in this case, and considered the treatment she received (ice packs, etc.), he would have known that the woman had had a severe infection involving the tubes; hence the sterility.

No attention should have been paid to a vaginal smear, as this is invariably negative. A smear from the cervix might possibly have shown specific organisms; but, even if they were negative, it would be a mistake to dilate.

We all know how frequently disaster follows the traumatism of labor or abortion in a woman with an old gonococcal infection, and I consider that it was a serious error to dilate such a patient's cervix.

There is, to be sure, a remote possibility that the woman was infected from without, but this is so remote as to merit little more than passing notice.

It seems to me, furthermore, that it is next to impossible to determine when a gonococcal infection is cured, and the uterus of a woman who has had a Neisserian infection is a good organ to leave religiously alone.

A smouldering infection can be very easily lighted up, which, no doubt, was what happened in the case under discussion.

Discussion by Dr. J. A. Dungan, Greeley, Colo.

This offers us the natural assumption that the lady in question still had, at the time of the dilatation, more or less of an endometritis of a gonorrheal nature. It is presumed, of course, that absolute asepsis prevailed in the surgical effort mentioned, as otherwise this would have, of itself, been the direct cause of the peritonitis. If, as I suppose, a Neissarian cervicitis existed at that time, the wounds of the mucosa produced by the traumatism of the Goodell instrument would have produced the needed "wounds of entrance," and the explanation of the peritonitis follows, *secundum artem*. In conclusion, a negative vaginal smear does not exclude a possible intrauterine chronic gonorrhea.

Discussion by Dr. W. W. D. Akers, Hooker, Okla.

If the surgeon, in 1915, was aware of the gonorrheal history of this woman, he erred in dilating before he was absolutely sure there was not dormant gonococci present. It seems to me that a vaginal smear was not sufficient. One can not be sure of a latent gonorrheal infection short of a laboratory examination of the urine and the agglutination test of the blood, and, if positive, a course of autogenous vaccines should be given. The neglect to do this, I think, is wherein the surgeon erred.

It seems to me that two days is a very short time, in fact, too short for a peritonitis to develop from the time the cause was produced; four or five days would have been better, for an infection to flare up as a result of a reaction to the dilatation; but, the fact that peritonitis did follow, I consider, was due to the resurrection of the latent gonococci, as a result of the reaction to the dilatation, assuming that the surgeon was aseptic in his manipulations.

Discussion by Dr. Edmund L. Levisohn, Chicago

Instrumentation of the uterus following a known Neisserian infection, of no matter how long a standing, is, without a question, a serious matter. In cases of sterility following salpingitis due to gonorrhea there is a known pathology of the tubes; namely, a thickening of the mucosa and walls and practically a complete occlusion. I say "practically complete" because, in nearly all cases, a focus of infection remains which will always cause an acute exacerbation of salpingitis, endometritis or peritonitis when trauma to the uterus occurs.

I feel that the errors made in this case can be summed up as follows:

A negative vaginal smear for gonorrhea means nothing. Only after repeated examination of smears, especially immediately following two or more menstrual periods, should we feel that we can reasonably assume that no Neisserian diplococci remain.

The diagnosis of stenosis of the cervix in these cases is a hit and miss affair, and, in the vast majority of cases, wrong; and dilatation of the cervix will not assist in gaining that which we are attempting to accomplish.

Surgical interference of the uterus was entirely unnecessary and uncalled for. The only surgery that should have been done was a laparotomy to examine the tubes and if the salpingitis was unilateral, a salpingectomy on the affected side. If bilateral salpingitis is found, any surgery is contraindicated.

Discussion by Dr. M. K. Dermenjian, Detroit

I have to admit that it is a mighty hard proposition to state positively whether previously-infected female genitalia (it is true for the male, too) are free from gonococci harboring spots or glands. In the meantime, I find the surgeon's examination incomplete.

Knowing about her previous ailment and connecting the present stenosis with that infection, his examination, I think, should have run in the following manner:

1.—The surgeon should have had several smears taken, not from the vagina but from the cervical canal, and searched diligently for gonococci. If any suspicious-looking diplococci were seen, he should have used a Gram stain to prove that they were Gram positive and not gonococci.

2.—In such a suspicious case, one smear generally is not sufficient. We have to resort to culturing the discharge from the canal. Two or more smears and cultures from the canal giving negative results and done by a competent laboratory or the surgeon himself, are necessary to prove that the cervix is free from gonococci.

3.—I doubt that, in this case, the stenosis was the cause of sterility. If a cervical canal is patent enough to allow menstrual blood to flow through, it is wide enough, I am sure, to allow the sperm to pass into the uterus. I think she had more than a stenosed canal; most probably she had obliterated tubes, which could be rendered more or less clear by a carefully-taken history. In such a case, after using all our means to prove the cervical canal free from gonococci, we might cautiously use inflation to find out about the patency of the tubes.

I admit that this last procedure isn't free from danger, even if it is proved that the cervical canal doesn't harbor any gonococci. The tubes themselves may be harboring them, and inflation will stir and push them into the peritoneal cavity. So, this danger ought to be kept in mind, before resorting to inflation.

Discussion by Dr. E. C. Junger, Soldier, Iowa

This problem impresses me that the surgeon in the case has committed more than one error, and serious ones to boot. Here we have a patient whose uterine mucosa harbors, perhaps, countless gonococci, all of which have been content to play the role of quiet reminders of days long gone by. It is also not at

all unlikely that another colony was doing the slumber act in the Fallopian tubes, and now comes a ruthless surgeon and stirs up a regular hornets' nest and rudely awakens the little "double-biscuiters" so that they have reason to become angry; and they not only charge in every possible direction, including the adjacent peritoneum, but at the same time spit out their venom in the form of the much-dreaded toxin.

And what did he aim to accomplish? Heavens, this man must have a beautiful conception of the size of human spermatozoa that he must have felt there was not room enough for these "animules" to go through the uterine canal, even if we grant that there was some stenosis, though I confess I envy that man's skill who can, scientifically, of course, demonstrate a uterine stenosis in the average uterus of average size and position.

Lucky for that woman that the surgeon did not decide to open her peritoneum. Had he done that, she would have been sent across the Great Divide from which, to my best knowledge and belief, no man or woman has ever returned.

This discussion, to my mind, is of tremendous value to all of us, since it leads up to a realization that things which ought not to be done are equally as disastrous as the omission of the things which should be done under a number of circumstances. This means almost as much as actual experience, the greatest teacher of them all.

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Editorial Comment

My good friends, there will be no comment today. There will be no comment on the discussions for the simple reason that each contributor, in his own characteristic style and manner, has said the things that can be said on the subject, properly, exhaustively and, above all, correctly.

What can be said is merely to emphasize a few points suggested by our friend, Dr. Junger; namely, with regard to the instructive value of the exercise.

Is it not a fact that, not so long since, many prominent foreign gynecologists have condemned the practice, which they claimed was in vogue in America, of curetting the endometrium for even acute gonococcal infections? If any one doubts my statement, I refer him to Kuestner's work on Gynecology, than which I have seen no better one for some time. When I read that passage, I felt extremely uncomfortable under the collar, and my first impulse was to write and demand a retraction from Otto Kuestner, the editor and author of that particular chapter of the book; but, on second thought, I kept still, because I recalled that there had been many words of caution against the misuse of the curette uttered in our own literature at about that time, and a little investigation convinced me that, while the scientifically-trained gynecologists were too well familiar with bacteriology to commit such a blunder as to resort to instrumentation in acute gonococcal endometritis, there were a number of general practitioners who resorted to the curette at the least provocation. The readers who have been in practice for fifteen or twenty years will confirm that this is the sad but exact truth.

I was, therefore, considerably shocked when called in consultation to see the young woman whose case I have chosen as the text for the third error problem of this series.

On the way to the hospital, the physician, a general practitioner of good training, told me that he thought that a mere dilatation of the uterine canal would equalize what he believed to have been stasis due to a circulatory disturbance of the uterus proper and that, while he knew about the history of the case as given, he estimated that sufficient time had elapsed to render the cocci, if any were left, innocuous, and that the smear he took was confirmatory rather than absolute evidence.

When I saw the woman, I thought she would die. We at once ordered suitable conservative, or rather non-operative treatment; for I had been called in with the idea that a laparotomy would have to be done as a life-saving procedure. To our great surprise and extreme gratification, the stormy phenomena abated somewhat in the next few days and, after about three weeks, our patient went home a weak but happy woman. I advised extreme caution in the way of resuming her former occupation and suggested that none but ichthyol tampons be resorted to in future if the patient insists on some treatment of a gynecic character.

Bacteriologically, the job of deciding on the absence of potentially virulent gonococci in the endometrium is not only fraught with technical difficulties in the way of obtaining the necessary material, but also with a problem of professional skill, since none but cultural methods have any value, and even these are meaningless as one cannot explore the entire endometrium. The practitioner, therefore, may as well satisfy himself with a mere inspection of the os uteri through a speculum

for all the good any bacterial test will do.

I shall not discuss this case any further except to say that the examination was incomplete without an examination of the husband. It takes two to make a bargain and it is not always: *cherchez la femme.*

Surgical Exercise No. 3

A young woman calls on you for classic phenomena of chronic, recurrent appendicitis. She states that, about a year ago, she was operated upon for appendicitis in a hospital of, let us say, second class, and that her physician, who had called in a surgeon friend of his, told her, after the operation, that the appendix had sloughed away so that no trace of it could be found.

A little investigation convinces you that the surgeon in the case was far from being perfection personified, and you decide that an operation is necessary, possibly to overcome cecal adhesions.

You open the abdomen and pull out the cecum. You identify the ileo-cecal junction without any difficulty. The cecum is mobile, you can rotate the bowel in any desired direction; yet, there is no evidence of an appendix. You examine the ovary, tube and upward as far as the gall bladder; yet, nothing is visible of anything resembling an appendix.

Inspection finding you in the situation of your predecessor, what is your next step, if any, and your decision in the case at the stage described?

I only desire to add that this is an actual case from my own practice.

The Reciprocity of Smiles

By JAMES W. FOLEY

SOMETIMES I wonder why they smile so pleasantly at me,
And pat my head when they pass by as friendly as can be;
Sometimes I wonder why they stop to tell me How-d'-do,
And ask me then how old I am and where I'm going to;
And ask me can I spare a curl and say they used to know
A little girl that looked like me, Oh, years and years ago:
And I told Mamma how they smiled and asked her why they do,
So she said if you smile at folks they always smile at you.

I NEVER knew I smiled at them when they were going by,
I guess it smiled all by itself and that's the reason why;
I just look up from playing if it's any one I know,
And they most always smile at me and maybe say Hello;
And I can smile at any one, no matter who or where,
Because I'm just a little girl with lots of them to spare;
And Mamma said we ought to smile at folks and if you do
Most always they feel better and they smile right back to you.

AND when so many smile at me and ask me for a curl,
It makes me think most everybody likes a little girl;
And once when I was playing and a man was going by,
He smiled at me and then he rubbed some dust out of his eye,
Because it made it water so, and said he used to know
A little girl up in his yard who used to smile just so;
And then I asked why don't she now and then he said, "You see——"
And then he rubbed his eye again and only smiled at me.

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Good Medicine

Let us learn as we go, but not forget what we know
Conducted by GEORGE H. CANDLER

What Do You Think? And Why?

JUST because it is entirely too hot in this portion of the incomparable U. S. A. to think effectively, I have chosen this subject because I won't have to cerebrate actively to produce an article which may, or may not, make *some* readers, enjoying a more equable climate than this of our nationally famous "summer resort," think quite a whole lot. I am speaking of *some* readers, not *all* readers, because I have a faint but growing suspicion that quite a number of people who read don't think—at least not about what they read. They may think they think but they don't; they merely let ideas pour over their inner consciousness just as the barber pours bay-rum over their heads. The bay-rum gives off a pleasant aroma, but it doesn't produce anything more than a momentary effect. So the written word—or most of the things written and generally read—produce a momentary effect but fail to excite active mental processes. Some of the things written are not provocative of thought, it is true — at least, not of nice thoughts!

An esteemed correspondent recently wrote, "the mind is a peculiar organ". Now, of course, as a matter of fact, the mind may be a peculiar *thing*, but it is not an organ. The brain is the "organ of the mind", and when that organ, or one of the "pipe" variety, is out of tune or has dust, cockroaches or mice in its pipes, it yields some very heart-rending discords—or remains dumb, no matter how hard the bellows are blown. That, I assume, is why a person who evidently doesn't think much about even simple things is called "dumb". It couldn't possibly be because they don't talk for, usually, they do that entirely too much. Probably we all do. Fr'instance, there was an enormous amount of vocalization at the late Democratic Convention in N'Yawk, but were those who used words and still more words also using their brains to any appreciable extent—most of the time, anyhow?

Deponent sadly but firmly avers that they were *not*. What do *you* think—and why? Or have you adopted the party emblem and not thought about it at all? "Of course, I thought about it!" someone sternly protests. Well, how do you know that you thought—did you reach any definite conclusions, arrive at any deduction you had not arrived at before? Did you, perhaps, say to yourself after careful cogitation: "It certainly behooves me and every other decent, reasonably intelligent inhabitant of this fair country to take a little more interest in politics and see to it that the men who 'run the machine' are decent mechanics, not ex-farm hands running amuck with a hammer and monkey-wrench. I may have to get that kind of service in lots of garages and, after thinking that over, too, I am quite sure their attentions cost me at least ten thousand miles of service from each car I own, to say nothing of charges; therefore, what can their compeers not manage to do to the old car of State? The more I think about it, the more ardently I admire Bob LaFollette. He, at least, uses the gray matter in his cranium and doesn't hesitate to express his thoughts. That is what we seem to need—people who really think and then don't hesitate to express themselves, not so much vocally as by deeds."

If you have said something like this to yourself, you have been *thinking* and, if you don't watch out, such procedure will become a habit. But, do not let yourself think wrongly, even about thought. It is unquestionably better to think somewhat ineffectively than not to think at all, but it is also infinitely better, both for the individual and society, that intensive thinking be done along desirable—what we call "rational" lines.

Two young men, whose names are in the mouths of every citizen of this country, *thought*—but alas! they thought altogether too much about (1) themselves and the emotions

they could or might experience, and (2) subjects which only very mature and stable-minded criminologists, alienists and psychiatrists might even consider with safety. Unhappily, some of the great minds — minds which have not only absorbed facts as a sponge absorbs water and *yielded* ideas just as the sponge will give up water upon being squeezed—were warped and, like the organ with disordered pipes, produced anything but harmonies. Weird, wanton strains they offered: tantalizing, throbbing tom-tom notes which beat upon the brain and soul of the hearer till the eye saw red, the reason yielded to instinct and all to appetite! The sensible was drowned by the insidious appeal to the sensual and the man, ensnared by the siren song, became a *monster.* That is where the ability to *think correctly* might mean everything.

Take any fifty men you know or have known; let them have read every available tome dealing with normal, abnormal, legitimate and illicit love and sex topics generally, and place them in a position where each idea engendered in their minds might easily be materialized with similarly-minded companions—all this before contact with the normal world and its realities had engendered a sense of responsibility and, more important still, self respect and control. How many of these do you think would fail, sooner or later, to defy the conventions and fall into criminal (as we define it) ways?

If I remember correctly, it was John Wilberforce, Archbishop of Canterbury, who, upon seeing some poor wretch tethered behind a tumbril upon his way to the gallows, remarked sadly, "But for the grace of God, there goes John Wilberforce." There, in a nutshell, it seems to me upon thinking things over, lies the whole Loeb-Leopold situation. Two youths, unusually well-endowed mentally and physically, grow up with every whim gratified, with many servants and tutors around them. Those who know anything about the growing boy know perfectly well that some time before or upon entering the adolescent period, curiosity about things sexual becomes insistent. What the ultimate sex life of that boy will be depends, to an unbelievably large extent, upon what his first impressions are. These he receives from his companions, available books, pictures or music. Those who know, also are aware that the information along such lines imparted by servants and secured in "boys schools" generally is not, by any means, of a desirable character and the physician who has heard many confessions is perfectly well aware that departures not alone from the "straight and narrow" but also from the *normal* sexual path are extremely common among young people the wide world over; a little more common—especially bizarre indulgences—today, perhaps, than a half or full century ago. At least, the provocation is greater, and derelictions are today more apt to be winked at. Where, then, the ordinary healthy boy might have but few, if any, undesirable (I mean by that *unnatural* experiences) the over-indulged, over-cared for youth might (especially if he formed a close friendship for another lad equally interested in such matters) very easily find sex and sex sensations obsessing him. Give such a pair unlimited money, unlimited privacy and unlimited acquiescence in their ideas from those who sought their favor and it is very easy to visualize a Thaw, a Loeb, a Leopold or a Wilde, or, for that matter, a Stanford White, the Sybaritic libertine, some of whose long-continued but winked-at acts drove Thaw to kill him. It must be remembered that other men have slain on far less provocation than Thaw and been lionized thereafter by the public.

The act of Loeb and Leopold in killing the unfortunate Franks boy might have been foreseen by any psychoanalyst or even by any well-informed physician, had he been aware of their habits and general trend of thought. The Sadist *must* hurt the object of his passion; the homo-sexual experiences the most severe pangs of jealousy and is constantly seeking some new and, if possible, keener sensation. So, these boys, trying all kinds of sexual gratification and egged on one by the other, needed only to dip together into certain obscene medieval literature to mentally picture joys so great that it was impossible to forego them—thrills so exquisite that they must be experienced—even though the price were a life! They read of dark, dreadful but yet supposedly delightful things with minds already fevered by many peculiar experiences and what happened to them was what happened to Leonardo da Vinci—"they read no more that day"—they *acted!* And it is one of the basal laws of civilized society that a man shall be judged by his acts and for every ill deed (discovered) pay the price. That price *must* be paid. Some pay it with shame and publicly; others with equal shame in private; but the price, somehow,

sometime, MUST BE PAID!

There is, unquestionably, an insistent demand upon the part of the public generally that these two boys shall promptly pay the extreme penalty. Every normal man—even though he too may have transgressed in minor ways—feels the hot blood surge whenever he thinks of that laughing Franks boy ruthlessly, brutally, uselessly killed within sight of his own home and then of that little body, stripped naked and thrust headlong into a filthy culvert. Think of the victim and you think—*vengeance!* No *woman* can dwell upon that picture and then hear two rich, indulged and self-indulgent youths calmly state that they planned carefully each move and did what they did do "just for a thrill" without wanting to help pull the rope which would choke the breath from their bodies. Many, very many men, to whom I have talked personally, have expressed themselves as quite willing to officiate at just such a ceremony and not a few do not hesitate to say that, if the machine of Justice fails to exact the ultimate penalty, there are those who will see to it that the sword falls where, if we are to accept "an eye for an eye, a tooth for a tooth," it certainly should fall, swiftly and surely.

BUT, here again, comes the question of *responsibility*. Are these two young men responsible for what they did? Is *anyone* who does what he should not do—what the long-established Laws of Society decree must not be done because of the resultant harm to some individual or to the race as a whole—fully and alone responsible for his misdeed? I think so, unless he or she be imbecile or so feeble-minded that the ordinary conception of right and wrong is impossible. The "temporary insanity" plea has saved many—sometimes rightly, often improperly, but I have more sympathy for the man who slays his enemy, or the betrayer of his wife or daughter, in a fit of fury than I have for the otherwise highly intellectual being who kills a harmless, happy child *"for a thrill."* Yes, infinitely more sympathy for such a killer than for the man or woman who even tortures a child or weaker being for the purpose of self-gratification.

Any of us can deliberately *think* along the wrong lines until we *do* a wrong. "As a man thinks so is he" is just as true as "as a man *is* so he thinks"—probably more so. Therefore, I have not much admiration for the hair-splitting alienists who, at so much per diem, will try to convince a jury (or judge) that a coldly calculated killing, arising from a *folie a deux* is a different thing entirely to a quick provoked murder by one! If there be a difference, the latter is the least detestable crime.

As these lines are written, the public is informed that the eminently able counsel for the accused has entered a plea of "guilty" but intends to present evidence that the mental condition of his clients was and is such that the judge would be warranted in simply removing them permanently from society. That is to say, the attorneys for the defense and the families of these wretched youths (who naturally have every decent man's sympathy) have decided that the deed must be paid for—*not* according to the Mosaic law, however, but along more modern and "humanitarian" lines. A life sentence evidently is considered by them as best meeting the dread requirements. Whether such a sentence will also act as an effectual deterrent to other individuals with similar tendencies is a most serious question, one, moreover, which with all the light of experience it is almost impossible to answer.

Here we come straight up against the much vexed problem "Is capital punishment ever a deterrent?" Considering the number of murders in this county of Cook by women who *never are* hung, I would come to the conclusion that it probably is. I am confirmed in this opinion by the fact that in England, where they most swiftly and certainly hang the homicide, murders are decidedly few and far between. You know and I know that if we are sure that *if* we kill we shall be the principal figure at a roping party, we are very apt to control our emotions. If we think we can "get away with it" we *might* cut loose regardless. That, I am sorry to say, is plain human nature—which doesn't change so much as some erudite but dreamy gentlemen would have us believe. There *are* no "new emotions." Loeb and Leopold thought there were—or at least they thought that someone had been able to experience an emotion denied them. They were not to be done out of gratification of their senses, *so* they *killed a child;* They *knew* they were going to kill; they arranged every detail to cover their red trail, BUT, as usual, they forgot something and their crime was discovered. Now they must pay the price. The question is shall the price be that demanded from the beginning or a modification thereof? What do *you* think—and why?

It is interesting to contemplate the fact that *thinking* alone caused and will, more or less satisfactorily, settle this question. The slayers of young Franks deliberately *thought* themselves into the position of egoistic homicides. The group of brilliant attorneys representing "the people" have *thought* themselves into a frame of mind where they are prepared to relentlessly demand the death penalty. The judge, thrust into a most unenviable position by the plea of "guilty," must have thought out his procedure or he will be mentally influenced by those alienists who have carefully thought out their line of argument, aided by counsel who have thought unceasingly to find some means of escape for their clients. A man who cannot think and reach correct conclusions might easily be befuddled by the theories these gentlemen will propound; the Freudian facts and fancies and Nietzsche-born nastinesses he will be forced to consider. His position is not an enviable one—for that matter, that of no one connected with the horrible mess is—and, which ever way he decides, he will incur bitter criticism. To the physician who thinks (and every physician owes it to himself and the public to think very seriously about this case, its causes and influences), there is, of course, now but one possible procedure.

That being out of the way, it will bear in upon every balanced and active intelligence that it is very essential that the minds of the young of both sexes be guarded and guided a trifle more effectively than they are at this moment. That normal sexual curiosity and rank eroticism must be differentiated and steps taken to open sanely thought-out safety valves when the pressure gets too high in any young dynamo under observation. And *all* untried dynamos must be observed and have their working adjusted. Nothing could possibly be worse for youth than unrestricted freedom, especially from a fear of consequences. Only the other day a young man, warned of possible—yes, probable—unpleasant consequences, retorted: "There ain't going to be no consequences. I'm wise." That is the train of thought which leads the Leopold-Loebs on to dishonor, disaster and death. The facts in the case under consideration prove that—and so do a thousand other cases with which we collectively are familiar. Of them, however, the public and Justice know nothing.

It is, unhappily, quite impossible for any one of us to know definitely what someone else is thinking about. We do not really quite know what thought *is* or *how* we think. Curiosity upon this subject has existed for ages. You may have observed that antiquarians and anthropologists have recently been having a wonderful time debating between themselves how and why round holes are often found in the exhumed skulls of members of extinct races and in different parts of the world? That the trephining was done with a stone instrument was proven satisfactorily but why the operation was performed remained a mystery. Possibly, one savant suggested, these pieces of bone were removed from the heads of those unusually gifted and were subsequently worn by some king or high priest as a species of intellect increasing charm. Doubtless such individuals needed the added intelligence but "button, button, I've got the button" wouldn't bring it. That was distinctly a bone-headed idea! More likely some inquiring priest-physician wanted to see if he couldn't discover how the thought wheels went round. Or, perhaps, the idea was to release an evil spirit who was mixing things up in the cranial cavity. Anyhow, the working of the brain must have aroused profound interest almost as soon as man began to think at all and that interested curiosity is certain to persist just as long as the race itself exists.

I doubt whether we shall ever fully understand the thought process but I am sure that many of us can tell with reasonable accuracy what is going on in the minds of the young at certain times and under easily recognizable conditions. Might not the real physician at that precise time do educative work which would most materially aid in developing the dynamo, running or about to "run wild", into a perfectly operating and most useful unit of the social machine? I think he could and should. As things are at present *does* he? I am inclined to think not! Anyhow, what do *you* think about it—and why?

Let's Talk it Over

Diet Deficiency and Disease

TO charge the medical profession in general, and that portion of it in particular which delights to consider itself as purely scientific, with having gone awhoring after strange gods, yclept bacterins, serums, vaccines, inoculations, etc., will without doubt provoke a storm of angry dissent not to say abuse; and, if insult be added to injury by affirming that the diseases, all and singular, against which the aid of the aforesaid gods is invoked, for the most part, are the direct outcome of commercialized greed, professional bigotry and general all-around crass stupidity, it is safe to say that the only adequate reply that these several powerful elements in the community could suggest, is the old one of "Crucify Him!" "Crucify Him!"

But, before putting this decree of death into execution, it might be the part of wisdom to consider whether sufficient evidence exists to give colorable ground for the accusation or perhaps even furnish justification for a portion of it.

A study of vital statistics reveals the existence of two interesting and apparently contradictory conditions, namely, while certain specific infectious diseases have been brought under control—so much so that of recent years several have ceased to give any cause for public anxiety—other diseases not classified as infectious continue to spread, affecting larger numbers each succeeding year. Not only is this true, it is so in spite of special clinical study and laboratory experiments carried on practically all over the world. Neither cause nor cure for them appear to be forthcoming. As to treatment, the mind is burdened beyond measure with the number and variety of means suggested, that have one main feature in common, namely, they are not successful. Typhus, typhoid, malarial and yellow fevers have practically disappeared from North America during the past twenty years. The cause having been discovered, prevention has done the rest; knowledge of the enemy and his methods of working enabled science to concentrate on his destruction.

In the second group, diseases not contagious, that are increasing in spite of sanitation, health crusades, health hints in the daily press, etc., are appendicitis, arteriosclerosis, Bright's disease, cancer, diabetes mellitus, neurasthenia, epilepsy; a deadly list that takes an annually increased toll of human lives, to say nothing of the misery and suffering entailed before the curtain drops.

Not the least disquieting feature in increase and spread of these diseases is the fact that they are almost entirely peculiar to civilized people. Past history is a record of ancient civilizations that grew, developed, reached their zenith only to disappear from some inherent weakness, to make way for ruder cultures and more vigorous races, that in time went through the same orderly procession of growth development, maturity and decay, to be in their turn supplanted by new peoples and inferior cultures. So now the twentieth-century civilization is apparently to traverse the same road as all previous ones; destroyed by some internal rottenness, whether of social, political or economic origin or a combination of all three—which is most probable—it matters not. The fact remains that medicine has so far failed to halt or stem this rising tide of disease which threatens our destruction in the near future.

In endeavoring to combat these diseases of civilization, preparations of every gland tissue and fluid of the body have been pressed into service as remedies; administered by every possible route, oral, intravenous, subcutaneous, etc., the use of radium, electricity, heat and light rays in various ways were included as methods of introducing curative remedies into the system, and yet it must be confessed that the measures of success achieved falls far from being a realization of our desires. How many of these remedies are curative? How many not even palliative?

Surgery is called in to run a tilt against the enemy where medicine has failed, and it may be pointed out that, excluding traumatism and some obstetrical cases, surgical cases

are simply the end-products of neglected medical ones, functional derangements neglected and allowed to run on until anatomical lesions call for the knife, and a living but mutilated creature returns home from the hospital, perhaps. Witness the thousands of cases of operation for appendicitis, for tonsillitis, with surgical operations for cancer leading the van, few of which are worth while if we believe what Dr. Jacobi said on the subject years ago, viz., that, in his opinion, medicinally treated cancer patients lived longer and suffered less than those treated surgically.

Appendectomy is a fashionable operation, highly profitable to the surgeon, and under improved surgical technic almost devoid of immediate danger to the patient. But, what about the end-results? Contrary to popular opinion, the appendix is not a useless piece of tissue, but an important organ necessary for the functioning of normal bowel action, furnishing a digestive fluid and a bowel-lubricant that we can ill afford to lose. Doubtless, the removal of a diseased appendix leaves the patient in a happier condition; but, so would the removal of a diseased foot or leg or arm. It would be hard to gain the consent of any patient to submit to the removal of an arm, leg or foot for "fear that they might become diseased in the near future," though I have seen this very reason advanced and acted upon in the case of a perfectly healthy appendix. Again the question. What causes appendicitis? Surely, deranged bowel trouble.

How many times has it not been observed that epileptics derive greater and more permanent relief from their malady through efforts directed to cleansing, disinfecting and regulating the bowels, together with attention to the diet, than from all the bromides we can persuade them to swallow? From this it is quite legitimate to infer that toxins, generated in the digestive tract, are the primary cause, acting upon a nervous system of poor stability, and produce the nerve-storm we call epilepsy. In time, by repetition, this nerve-storm becomes a habit with a hair-trigger set; the slightest irritation produces a seizure. Just feed such patients on fresh pork and note results. It can be fairly claimed that epilepsy originates in neglected, functional bowel conditions and is a medical condition not correctly treated in its beginning.

The kidneys excrete the end-products of metabolism, in combination with eight or ten of the elements,—sulphur, lime, phosphorus, chlorine, potassium, sodium, etc.; but, if these elements are not present in the economy in sufficient abundance, defective elimination follows, with retention of deleterious waste products in the system: autotoxemia with all that that entails. Normal natural foods contain all these necessary elements in abundance. But the food that commercialism decrees shall form our dietary is so sophisticated, polished, refined, adulterated, processed, demineralized, denatured, etc., that the greater portion of it is no longer fit for food. To please the eye, tickle the palate of consumers and swell the dividends of the food manipulators, good wholesome and nourishing food, fit to raise the finest crop of human beings physically, mentally, aye and morally, too, is so processed by organized greed as to become worthless as food and ends by being the most potent agent in destroying the national wealth. In addition to demineralization, the coarser food elements are also removed, elements that are absolutely requisite for normal bowel action.

When all this is taken into consideration, why express surprise at the increase of such diseases as cancer, etc.? Then the effects of constipation and bowel stasis—the inevitable results of food manipulation and the bane of civilized society, no man can delimit. Constipation in itself is a prolific source of many of the present-day maladies of civilization, a potent factor in the genesis of a long list of disorders of which the following comprise some but by no means all of the cursed crew: pernicious anemia, arteriosclerosis, appendicitis, nephritis, cancer, epilepsy, neurasthenia, neuritis, rheumatism, gall-bladder inflammations, etc. That is to say, that diet deficiency plus constipation (a result of the former) together are jointly responsible for the prevalence of the aforementioned diseases.

Common every-day experience shows the intimate causal relationship of all these disorders to constipation, intestinal stasis and autotoxemia. In this way, a vicious circle is completed, beginning with devitalized and demineralized foods, causing inadequate functioning of the nervous and muscular systems of the digestive tract, producing constipation and stasis with development and absorption of toxins which increase the derangement above referred to, and so on until vitality is exhausted in the unequal fight and death closes the scene. All this is due to wilful adulteration and sophistication of perfect foods, in the interest of commercialized greed. All this in our boasted twentieth century civilization. Where lies the blame? With greed or stupidity? With manufacturers or consumers?

Or with both?

During the late war, the German commerce raider, "Kronprinz Wilhelm", was out for 255 days. Her crew of 500 men had ample stores of chilled fresh beef and mutton, refined white sugar, white flour, ham, cheese, condensed milk, potatoes, butter (oleo), canned vegetables, polished rice, tea and coffee; in fact full supplies of all the foods that are to be found in an average American household in comfortable circumstances.

On March 25, 1915 (238 days out), fifty of her crew were acting "queerly" and none of the others were in first-class health, with fresh cases developing so rapidly that in a few weeks all of them would either be dead or on the sick list unfit for duty. So, taking a desperate chance against the enemy, a dash was made for Newport News, where she arrived on April 11, 1915 (255 days out), with one hundred and ten sick in the hospital and the balance of her crew all heading the same way.

Eminent medical men met with the ship's surgeon in consultation, ready to aid if possible. By means not germane to this paper, a layman of large experience in dietetics secured admission to the council chamber of the medical experts on board ship. He at once declared that the sickness of the crew was due to a deficiency in diet and pointed the way to curative treatment. As soon as it was disclosed that this expert was a layman and not a physician, not one of these eminent medical men took any further interest in the matter, and left the ship. The ship's surgeon, after consulting with the layman, sent for the ship's cook, and a new dietary, embodying the layman's suggestions, was devised. This proved so effective that only ten new cases were reported up to April 15 and, after that date, the sick recovered so rapidly and completely that, by the 24th of April, or ten days after the new dietary was adopted, forty-seven men were dismissed from the hospital cured and the rest were all rapidly recovering, without drugs of any kind being administered. So much for professional bigotry.

During the late war, regulation of the diet of the people by the government of Denmark, in seeing that the people received a sufficient supply of whole-rye bread, whole-meal porridge, whole grains, milk and an abundance of green vegetables, reduced the death rate by thirty-four percent.

About forty years ago, the directors of the Zoological Gardens, London, England, were suffering severe financial loss because all lion whelps born in captivity had cleft palates and, being unable to suckle, died from starvation. Dr. Bland Sutton was commissioned to inquire into the cause and devise a remedy if possible. After a thorough study of the situation, he stated the cause to be due to retarded intrauterine development produced by deficient diet. His prescription was "double the rations of all pregnant lionesses," resulting in fully developed whelps being born.

A pigeon fed on polished rice, such as is commonly sold for human consumption in America, will develop beriberi in about six weeks. If now fed on unpolished rice or on the "polishings", will recover in a marvelously short time. A chicken fed exclusively on white flour cannot be kept alive for three months; it dies of starvation. On whole wheat, it can live for an indefinite period.

Lieut. Col. McCarrison, of the Indian Army Medical Service, spent nine years among wild Himalayan tribes. He did an average of four hundred major operations yearly and never saw a case of gastrointestinal illness other than an occasional infection with the round worm, "Ascaris lumbricoides"; yet these people, living upon the unsophisticated foods of nature, milk, eggs, grains, fruit and vegetables, he tells us, are of magnificent physique, preserving until late in life the characteristics of the young; they are unusually fertile, long lived and endowed with nervous systems of notable stability; they eat goat's flesh on feast days only.

Recently, a writer in an American medical journal set out to prove by a study of Irish emigrant farmers who settled in Pennsylvania about eighty years ago, that the decrease of virility and constitutional vigor among their descendants was caused by the excessive amount of sunlight in fog-free America as compared with Ireland. He claimed that this sunlight was first stimulating, but, being excessive, became irritant and produced in these people a so-styled American nervous temperament; that the third generation, born in America of the original Irish stock, were few in number, containing a large percentage of neurasthenics and mental defectives. However, as this writer had apparently not taken into account the possibility that diet deficiency was the true factor in the case, we may well question his conclusions. His article is as pretty a piece of scientific bosh as one could well imagine.

The mountainous parts of eastern Kentucky and Tennessee were peopled by a pure

English stock about two hundred years ago and, although exposed to a more southerly sun, have not shown the degeneracy claimed for these Pennsylvanians. Nor has it ever been asserted that the aboriginal Americans, living even farther south for centuries before the advent of Columbus, suffer from unstable nervous systems or from any marked or peculiar physical defects due to climatic influences.

McCollum in his "The Newer Knowledge of Nutrition", is exceedingly insistent upon the inclusion of milk and green leafy vegetables in the normal dietary, and McCarrison is equally so; but he is just as insistent upon the inclusion of entire grains, in which stand his extensive experience with large numbers of army men and with the wild tribes of Himalayan India afford every justification.

And, when we consider how the Balkan peoples, situated about two degrees north of the latitude of Pennsylvania, have lived for ages upon whole rye bread and sour milk, that they are the largest race physically and the longest-lived of all races of men keeping vital statistics; that the next largest race, the Highland Scotch have lived from time immemorial largely upon oatmeal and milk (not, however, the refined oatmeal of our time), we begin to believe that McCarrison must be right, especially when to this evidence we add, as previously mentioned, the remarkable physical development, longevity, fertility and absolute absence of gastrointestinal illness among the wild tribes of northern India with whom he spent nine years.

In Billibid Prison, Philippine Islands, 1912, twenty-nine criminals under sentence of death were fed exclusively on refined denatured foods of the kinds most commonly in use in America, for the purpose of determining the effect of such diet. Their chief food consisted of polished rice. In six weeks, the condemned men became anemic. Their first symptom was slight edema of feet and ankles which disappeared after lying down. Puffiness beneath the eyes with general weakness and pains in the legs soon followed. Later, the edema became massive involving the thighs. Then came marked apathy with muscular wasting and extreme pallor. Finally, an enlargement of the heart with feeble heart actions.

The prisoners fed on the denatured diet mingled freely with the other prisoners, but there was no tendency of the disease to spread outside the group fed upon the polished rice. When this denatured food was removed from their diet and whole natural brown rice restored to them, they recovered promptly.

The Census Director at Washington tells us that every year, in the United States, four hundred thousand children under ten years of age die, and, while various named diseases are attached to their death certificates, we know that the true cause was physical weakness due to a denatured dietary, the direct outcome of commercialized greed. Just consider the following figures issued in 1912 by the U. S. Bureau of Education: Four hundred thousand children had organic heart disease, one million of them had tuberculosis (the product of a demineralized dietary lowering resistance to disease); one million had spinal curvature; one million had defective hearing; four million were suffering from malnutrition; six million had enlarged tonsils or other gland disease; ten million had defective teeth; fifteen million needed attention for physical defects prejudicial to health. Many of these children were then boys of fifteen.

Since then, they have passed through the medical examination of the draft of 1918. The defects of 1912 had become intensified during the interim. The re-examination of 1918 disclosed the nation's crime of neglect. In no other organ of the body are the ravages of a demineralized diet so glaringly visible as in the teeth. The American teeth of today are among the poorest on earth, in spite of the great variety and richness of the foods, abundant and cheap. In no other part of the world is so much care and attention bestowed on the teeth. American dentists and American dental science and practice set the pace for all others in treating diseased teeth and fitting artificial ones. But, all this expert knowledge gets the young and rising generation very little on the road of preserving their natural teeth. The ignorant peasantry of Europe, who know nothing of the use of a tooth brush, would not know one if they saw it, have splendid teeth, their children also; but a few years of American diet play havoc with them.

It is recognized that all childhood infirmities lower efficiency, for which reason school boards are ordering operations upon children's throats, removing adenoids, correcting defective vision, doing dental work, providing nurses, furnishing meals at cost, sending "cards of instruction" on hygiene and diet to parents. The charge for these services is borne by the community. The State exercises vast and elastic powers in the regulation of

public health and education. Why does the State make no attempt to search out the cause of the diseases with which it deals? Because the politicians, the food industries and the newspapers will not permit it.

Devitalized, demineralized foods produce poor, stunted ill-developed men and women, with miserable, weak, irritable, degenerate nervous systems. With the curse of such parenthood plus the same diet, why wonder that the next generation grades still lower from normal standards, providing a fruitful soil in which crime thrives? Examine police-court records, which testify to the high percentage of physical and moral degenerates among all classes of criminals. Well may we ask, why crime prevails? Rest assured that something deeper and more radical than the reform of legal procedure in America is required for the solution of this problem. Which did sin? The criminal in the dock or the food profiteers who swell their gains by preying upon the ignorance and credulity of the public; who, by unstinted use of printer's ink create a market for their sophisticated, adulterated, colored, bleached factory products, foisted upon a nation of hungry men, women and children—products that are in no true sense food. If any are inclined to doubt this, glance over the figures issued by the U. S. War Department in 1918, showing the percentage of "physical rejects", as follows: between the ages of 18 and 20, 30 percent; between the ages of 32 and 45, 32 percent. This appalling physical condition of the nation's manhood is not peculiar to the United States but is to be found in all other countries where modern American milling methods are used to prepare grains for food.

According to McCollum, deaths from old age diseases have almost doubled during the past thirty years. These diseases are now reaching down well into middle life, younger persons being attacked. The past thirty years cover the time since refined cereals have been exploited and the denaturing of white flour has reached its acme.

Available statistics show that, excluding imbeciles and idiots, about two percent of school children are subnormal to a degree that they are incapable of profiting sufficiently from instruction to develop a normal mentality. In a little more than one-half of these heredity is blamed, the balance being due to accidental causes. These subnormal classes are increasing.

The votaries of eugenics or euthenics, the latest child of social science, advocate sterilization of the subnormal—painless extinction—as a cure, without apparently giving much thought to the primary cause of the condition. They rest their case on the theory of man's evolution from the lower animals, and his adoption of the erect posture about one hundred thousand years ago. They likewise quote from Malthus, "On Population", with his theory of population increasing geometrically while food production increases arithmetically, a proposition aptly described by John Stuart Mill as "an unlucky attempt to give numerical precision to things which do not admit of it."

So far as evolution is concerned, *it is a pure hypothesis without a single fact in its support that would be admitted as evidence in any court of law where evidence is sifted and weighed.*

Malthus' book, published in 1798, was written with the view of pandering to the privileged classes and solving their conscience with the pleasing doctrine that poverty, vice, crime and war were due to people breeding too fast, a result of nature's bad laws and in no way due to a fault in the distribution of wealth. Malthus' views are utterly wrong and untenable; we have never yet exhausted the productive capacity of any given area of land. When such debatable theories are depended upon to support the demand for wholesale forcible sterilization of two percent of the population, further comment is superfluous.

Stock breeders can take individual cattle having desirable points—color, form, etc., and develop a strain in which they become fixed as hereditary ones. Change the environment and these may and do disappear. Short-horn breeding stock is constantly being imported into Argentina to keep up the standard of native herds that are themselves descendants of previous importations. To breed from the native stock, in a short time produces a rangy, longhorned, roughboned, poorly-fleshed animal far removed from the original short-horn type. Pure-bred Berkshire swine rapidly deteriorate in the West Indies, quickly reverting to the razor-back type; results of climate and diet. In both instances, cattle and swine, under the influence of environment, lose inherited characteristics and revert to the original type. Will anyone maintain that the subnormal is the original type of mankind, or can he prove that the laws of nature that apply to the lower animals have no such influence upon the human race?

The sum and substance of all the foregoing shows that there is something other than drugs and surgical operations needed to cure

the sick and that the medical profession has not got hold of that something. Failure to do so accounts for all the various cults which now dispute the field with us. We are off the track, have lost the trail, are shooting in the dark. There is a vast deal more of efficiency and sound common sense in prevention of disease than in its cure. Great as the boon of *Insulin* is to the diabetic, how much greater would be a knowledge of the cause of diabetes. That the cause of it lies in faulty dietetics, there are strong grounds for believing. Beriberi and simple goiter are dietetic-deficiency diseases cured by return to normal diet. And so are many other diseases just touched upon here. All extremes are errors. The microbic theory of disease is worked to death. Scientists, in searching the far horizon for their presence, frequently overlook perfectly obvious casual facts at their feet, that have nothing to do with microorganisms. Simple goiter is a case in point.

It is not claimed that a normal dietary will cure all diseases. What is claimed and emphasized and fully warranted by the evidence submitted is, that disordered conditions of metabolism, resulting in disease, are directly due to deficiencies in diet, and are remediable by the organism itself, if, at a reasonable early period of the disease, a return be made to a rational, normal, natural dietary. The second fact amply proved is, that the care and preparation of our food is in the hands of men ignorant of and indifferent to sound dietetics. Governed by commercialism alone, appealing to taste, appearance, convenience and printer's ink, they exploit refined foods that are destructive to the national health, while we of the medical profession, ignoring such a trivial commonplace as the quality of the food we eat, have our scientific gaze fixed on far distant horizons in search of a new bug or serum, etc., which will immortalize our name. Meanwhile, the people perish from lack of knowledge.

Havelock, Ont. A. S. THOMPSON.

Dr. Bryce's Talks

They Are Somebody's Daughters

WHEN I look back over the sad scenes and miserable sufferers that I have encountered in a long practice, I remember none more pitiful and hopeless than the creatures that I have encountered in the realm of underworld practice. And, now, that I have had time to see the culmination of many lives of these unfortunates and the better side of some of them, in spite of their awful surroundings, I am led to believe that all the prayers of good mothers for their wayward daughters are not unrewarded. I feel that some of the best work of my life has been in seeing that some of these poor girls passed through the crucible of suffering and went back to sorrowing parents, purified by their mental and physical suffering.

These unfortunates, when they have realized the mistake they have made and the hopelessness of forgiveness by the world, are grateful for one single kind word. Despite the accepted theory that they never can be saved from themselves, more than once have I been instrumental in turning their faces homeward to broken-hearted but forgiving parents.

I am glad to say that I do not believe in any unpardonable sin, nor do I believe that *my* God will inflict *eternal* punishment upon any of His creatures. A loving parent will endeavor to correct the faults of an erring child, and I believe that our Heavenly Father does this for us in this life and that a man can find no greater hell than what he may carry in his own heart.

Nearly forty years ago, a policeman called at my office and said he had been asked to send a doctor to a certain house to see a very sick woman, adding that "the women are crooked there, but they are good pay."

I found a woman about thirty years of age, in bed and apparently apprehensive and alarmed. She was remarkably handsome and her language indicated culture and association with people of refinement, and altogether out of place in such quarters. Temperature and pulse as well as respiration indicated serious trouble and the pretty hectic tint on each cheek caused me to suspect lung involvement. Upon applying the stethoscope, I was astonished to find the amount of destruction already done to her lungs: three or four large cavities, and cavernous respiration over half of the lung surface, a galloping heart and hurried, shallow respiration. This was one of those exceptional cases in which the fires of infection break out without warning and rapidly consume the victim; absolutely be-

yond the power of medical science to stay its progress in any degree. A month before, she considered herself in perfect health; now, she asked me:

"Doctor, how much time have I?"

"Why do you ask me that?"

"Because, I want to see my parents before I die and receive their forgiveness, if they will grant it," said the poor girl.

She stated that it had been ten years since she saw them or received any communication from them, although she had written to them several times and begged them to forgive her.

I told her that she was seriously ill and likely to die very soon, and that I would do anything in my power to add to her peace of mind. She begged me to write the facts in her case to her parents, who lived in a distant part of the state, and implore them to come to her or at least write to her their forgiveness. I wrote as she dictated and urged them to come at once to their penitent child before it was too late to place a soothing balm upon her tired soul.

A very brutal letter came, addressed to me, in which the father stated that he never wished to see or hear from his daughter again. I destroyed the letter and was about to frame up some comforting excuse to make to the unhappy dying woman, for the long delay in hearing from her parents, when it occurred to me to write once more to them. But, before I had finished the letter, the messenger boy handed me a telegram addressed to her in my care. I hastened over to the bedside of the sufferer and, tearing it open, glanced at it before giving it to her. It read: "My Darling Daughter. All forgiven. Coming. Father and Mother." She clutched it from my hand, read it eagerly and folding it carefully, tucked it in her bosom. Looking into my eyes, she said: "Doctor, there is no panacea for heartaches like a mother's love, and I am so happy." Her eyelids drooped, there was a shudder, and the troubles of this moral castaway were over forever.

Do you not think that her plea for forgiveness went far enough to reach One whose mercy is always sufficient to save? This poor girl suffered for a number of long years, but no one can imagine the feelings of those parents when they looked upon her features cold in death and remembered for how long they withheld their love from their own child.

Long years ago, I was called to see a case in a house of questionable character and found a young girl of about seventeen years of age, ill with scarlet fever, and the proprietress threatening to send her to a hospital in spite of her pleadings to be allowed to keep her room and to be treated there. The child had made the mistake of running away from home with a flashy fellow, to get married, as she thought, in the city. Her deceiver landed her in a house of prostitution, making her think it a respectable boarding house and, after taking advantage of her under the promise of marrying a little later, when he got everything straight, left her without a word of warning and without money. She had no idea of leading a wrong life and found herself sick and stranded, with a threat of being put out, unless she agreed to become an asset of the house as soon as she got well.

It was at this stage that I was called. When I had heard this child's story, I determined to try to reinstate her with her parents, for her only sin was an act of imprudence and ignorance of the world. She meant well. A letter to her father and mother brought a flat refusal to have any further communications with her or to permit her ever to live with them. This is the treatment that sends many a good girl to her destruction. Fortunately, she escaped pregnancy and, when she was well enough to get about, the inmates of the house and some of the men visitors made up a purse and bade her good luck and goodbye. At my suggestion, she returned to her home town, secured board with a good family, got a job and stuck to it, saving her money. When Christmas came, she sent her parents a present with her love and the old folks could not hold out any longer, but went for the prodigal and brought her home and they all forgot the past. It is an awful mistake for a parent to cast off a child pleading for a chance to redeem herself from an unfortunate false step.

A well-dressed woman with a little girl of four years entered my office, one morning, and told me the following remarkable tale: As far as she knew, she was left an infant at the door of a woman who ran a house of ill fame, and no clue to her parentage was ever obtained. She was cared for and treated kindly and passed as the daughter of the proprietress. Her foster-mother clothed her nicely and sent her to the best of schools, where she continued until her identity was known, when she was driven away. Her mother then determining to give her a liberal education, employed an ex-college professor

whose poverty and old age compelled him to accept her questionable offer of teaching in such a place and who gave her private instruction for three years.

At the age of eighteen, she was a well-developed and handsome woman with a good education, and a fine musician Then her mother astonished and horrified her by telling her that she was old enough and large enough and pretty enough to be a fine drawing card for the business, and that she must meet visitors in the parlor and accommodate the wealthy men who called. She had credited this woman with having a mother's heart for her at least, and now her feeling of revulsion at the suggestion of this procuress was overwhelming. She dressed herself attractively as evening approached, but, instead of appearing in the parlor of her home, she left it without a dollar and without a respectable friend on earth, with no friendly shelter nor definite purpose except to escape from destruction. She walked the streets until a late hour, undecided what to do and just hoping that fate would direct her, when a friendly officer tapped her on the arm and asked if she wasn't out rather late by herself. Upon learning that she had no home and no money, the officer escorted her to headquarters but preferred no charge against her. The matron gave her a welcome and cared for her until the next day, when she again started out on a search for an asylum that would screen her from her past associations.

"Well, what was the outcome?" I asked her.

"Doctor, there was no chance for me, a woman living as I had lived can find no asylum where she is known and I had no money to go elsewhere. So I chose the less of evils, found a good *friend,* and am known as a 'kept woman', and this is our child." Continuing, she said: "I never desired or approved of this life, and now I wish to live the right way and raise my little daughter, as I have saved enough to live as I should."

"Well, what can I do for you, what about the man you have been living with?"

"He is willing to help me to lead a respectable life as soon as I can find a good family with whom I can live and establish a good name, and he will go away and leave me free."

I took her name and address and told her I would send a minister to advise with her, but, when I mentioned the matter to one whom I considered the most sympathetic and devout man in the city, he positively declined to consider the matter "until she had left the man who was supporting her and proved that she was in earnest", adding "they never change—it is impossible to save them and not worth while trying". I was much disappointed in the quality of religion that my old minister friend was carrying, and sent for the woman to come to my office. I advised her to sell her house and turn everything into cash, to change her name and go to some large city, leaving no trace behind her as to her whereabouts; to get in a family with good respectable people, live right and to be sure never to communicate with anyone here again, not even myself. She took my advice and, eighteen years afterwards, I received a personal message from her, through a friend who met her, that she was happily married to a wealthy gentleman, that her daughter was a finely educated young woman and that all was well.

And here is the irony of fate: That minister's son became a large defaulter of a real-estate concern and had to flee to a South American country to escape imprisonment. He has remained an exile to the present day. His aged father, longing to see him, made the trip and, while there, contracted a tropical fever and died.

As I have said, these unfortunates are somebody's daughters and many could be saved if the world would only be kind enough to lend them a helping hand. Instead of eternally blaming and denouncing them, for God's sake try to pity them, and think, "Suppose they were my daughters?"

While on the subject of reclaiming this unhappy class of delinquents, my experience satisfies me that many of the supposed incorrigibles are not by any means devoid of the very best qualities of gratitude and kindness, even though they have given up hope of ever being any better themselves. When I was a young man and a poor man, I was in need of all the practice I could get, and, by being considerate to women of this class, I acquired a large practice among them. This was augmented greatly by my popularity with a large number of policemen, who would always send for me to fix up the wounded and intoxicated when they were called in these houses to quell outbreaks among the revelers and roisterers.

Among my stand-bys was as good hearted an Irish girl as ever lived, and as reckless and dare-devilish as you could find anywhere. She had gotten tired of home restraint, had taken up her abode and "did business" in one of the most notorious houses in a mean part of the city. The calls for me in this house

were frequent and the troubles ranged from drunkenness to attempted suicide, black eyes, stabs and an occasional bullet wound, though the knife was silent and safer and less likely to provoke a police raid unless they got stampeded and gave a cry of "murder", when all prepared for the inevitable raid. This girl was known to the police as "Wild Nora" and, whenever they were called to that section, they would say "I'll bet 'Wild Nora' has broke out again". She was a typical Irish beauty and, when not drinking, was a well-behaved, decent-looking sort of a woman of her class, if I may apply that term in this connection. When she was wrong, she was a dangerous woman and, through my influence with the police, I saved her several times from arrest and severe punishment. She was grateful and would listen to me and behave herself for me when she was at her worst and, really, the woman proved herself a real friend when she had an opportunity.

In the midst of a heavy run of practice and when the weather was very warm, I had the misfortune to have my fine driving horse killed in an accident, and found it imperative to have another at once to keep at work. I was caught without any ready money at the time, and tried to borrow a couple of hundred dollars from a friend to buy the kind of horse I wanted. He, like many other friends, was "strapped" at that time, and, not caring to be turned down by any other *friends*, I concluded to foot it around for a while until I collected enough to make my purchase. Fortunately or unfortunately, I met "Wild Nora" the next day, as I was walking and sweating under my cotton umbrella, on my way to see a patient. She was sober and serious looking and asked:

"What you doing walking this hot day, Doc.?"

"My horse was killed yesterday."

"Whyn't you buy another?"

"Haven't the money."

"The hell you ain't," she said.

"Oh, well, I guess I'll pick up enough after a while."

"Don't you worry. So long, Doc." And the fool actually kissed her hand to me in the street and passed along.

The next morning, soon after breakfast, I observed a young woman dressed in the most brilliant colors, with an immense ostrich feathered hat, a multicolored silk parasol and much jewelry, approaching my office door. As she drew near, I recognized her among all this display as "Wild Nora", and devoutly wished that I might find her free of *spiritual* excitement at least.

Her face was red and her breath smelled refreshing, but she was well under control and apparently actually happy.

"Doc., I'd like to see you privately for a minute," she said.

I showed her into my private office, and she pulled up her dress, slipped off her garter, took from her stocking a roll of heavily musk-scented bills and put them in my hand with a good honest squeeze, saying: "Go straight and buy yourself a real fine hoss, my friend."

When I thanked her for the timely loan and told her that I would return it very soon, this good outcast and moral leper said with all the Irish friendship in her soul: "The hell you will, may the good saints bless you, my darlint." She switched herself out with all her finery and furbelows. As true a friend as I ever had, was "Wild Nora", for the real friend is the friend in need, and this poor soul sleeps in Shockoe Cemetery and deserves a far better name than the world ever gave her.

C. A. Bryce.

516 N. 10th St., Richmond, Va.

SOUND ADVICE TO PHYSICIANS*

I appreciate the honor which this Society has conferred upon me, and I am deeply conscious of the fact that, in addressing you, I must not take up your time and the time of this Society without handing back to it something of value.

Much has been written and long speeches have been made regarding the cults, such as osteopathy, chiropractic and Christian Science. All have been exposed and damned and cussed, and committees of various medical and surgical societies have been appointed to legislate these people off the map. All without avail. And, now, I wonder what the real solution is and how much we as medical men have contributed to the upbuilding of the so-called cults. Did you ever stop to think that you and I have been great factors in promoting these fellows and all their works? Of course, we have. We have handed them thousands of dollars and many patients. I know, this is a statement which will bring forth a smile from many of the members of this Society, but I am going to recite one case that

*President's address delivered at the 41st Semi-Annual Meeting of the Southwestern Minnesota Medical Society, May 22, at Luverne,, Minn.

came under my immediate observation, and it is typical of a large number that every member of this Society can recall, only not so devastating in its results.

Mr. J., a distant relative of mine and one who had labored long and hard in the Western State, at the age of 56, consulted a clinic as to his health and, after a careful examination, he was referred to the head of the clinic, where he was told very coldly and politely that he had pernicious anemia, that there was no treatment for it, that there was absolutely no hope. And, this man very seriously stated that he (the patient) would probably last five or six months. This was written to me and my advice was sought. This man came from a long line of ancestors that have never said die. Then, as he was a highly intelligent man, well educated and one given to conversing and writing, you can well imagine what he wrote to me about the medical man that had hung the crepe on his door and slammed it in his face.

Now, this smart-alec of a medic, who was over fifty years of age and had had a large practice, framed up a very fine piece of business for the osteopath in a city where my friend moved very shortly. Here are the results: The osteopath secured, in less than two years, business enough so that he had an assistant, a secretary, and a fine automobile which was the envy of all the medics and surgeons in that flourishing town of 15,000.

My friend lived three and one-half years, and I was the only medical man whom he consulted, as he absolutely hated all others. He brought to the osteopath, from all over his state, people of influence and told his story of how basely he had been treated.

There is no comment on this that I wish to make, save that this case offers food for thought for all of us, and we should be very careful of our psychology, remembering that we are dealing with human beings who are sensitive as we are, and that we do not control the destinies of life.

My next thought to which I wish to ask your consideration is, that we constantly build up distrust in the minds of the public by careless speech and writings. Our members rush into print and write such things as I am now going to call your attention to. Here's the magazine, *Rational Living*, published in New York City, edited by Dr. Liber, a member in good standing in his local Society, and a member of the American Medical Association. He sends his magazine everywhere for the regular subscription price, and here are a few of the things that he says in the January number:

Statement No. 1. "Internal drugs are always harmful."

Statement No. 2. "While surgery is often necessary, most of the surgical operations performed today are unnecessary and harmful. They rarely remove the cause of the disease."

Statement No. 3. "That the use of drugs is one of the most important direct causes of disease, and that they are the indirect cause of neglect of right living which would prevent disease, is absolutely a fact."

Statement No. 4. "I am not afraid to confess that I have actually treated many children having diphtheria, this being bacteriologically proved, without antitoxin or any other medicine and that the results were invariably good."

These four statements go to the public and are broadcasted by the printed page. Do you wonder that the individual mind and the public mind often waver when there is sickness in the family? These statements always bring the question to their minds as to whether medicine or surgery be necessary.

Our cult people are not slow in taking up statements like these, to which I have called your attention, and a prominent lawyer stated to me last spring, looking me in the eye: "If we lawyers practiced law like you doctors do medicine, we would all be in the poorhouse." I wonder what he meant.

Do we men and women of the Southwestern Medical Society of Minnesota have any of these faults, which I have called to your attention?

Another thought that I wish to bring before you is one that is often discussed in daily papers and magazines. I refer to the so-called shortage of medical men in rural communities. I am sure I can speak with some authority on this subject; for, I have practiced in small rural communities for twenty-eight years, and I have studied the problem from the angle of the man in the field. In short, my observations are first-hand. We must get ready to face this problem in southwestern Minnesota. It is not an eventuality, it is very shortly to be an actuality that there are to be no medical men in the smaller towns. Many factors are at work to bring this condition about. First and foremost, young medical men or women will not take up small-town work, for they very wisely can see that there is no real fu-

ture for them. Second, the good roads, the automobiles and the large range which the doctor can cover by this means, bring doctor and patient nearer to the larger centers to trade and for medical treatment and advice. This is the spirit of the times and there is no use in fighting it.

We must have more group work in the larger centers and better laboratories and hospitals. We must have more County Societies. Our Staff meeting at the Home Hospital at Slayton, every month, takes the place of the County Society; but I wish to urge you to organize County Societies wherever you do not have opportunities of this kind. You will get along so much better, you will have so much more business; the public will have confidence in you and the medical men will be respected and honored as they should be.

Another thought I wish to bring out is, that each general practitioner in this Society should give some attention to the study of physicotherapy and the use of electricity in the relief and cure of many diseases.

Further, let me say that, if we wish to have the public's confidence, the writing of prescriptions for alcoholic liquors should be sparingly indulged in. No man can expect his brother practitioner to have faith in him if he writes booze prescriptions at $2 per, thinking he is getting away with it and making friends among the people who get these prescriptions. For, it is in the heart of every American to hate and despite a law-breaker.

Now, in a nutshell, what should we do that we have not been doing in the past. I am going to tell you a few things that we have been doing in Murray County. First, we have tendered the service of each member of the Staff of the Hospital to the County Agent, stating that any member of the staff will speak at any of the Farm Bureau meetings at any time. In short, we will go any place in the county to meet with Farm Clubs or Farm Bureau meetings. Second, in connection with the law passed by the last Legislature regarding the teaching of physical training, I am giving a series of lectures in the high school to all high school pupils each month and will hold demonstrations in first-aid work. Then, I am giving preventive goiter treatment to a large class of girls and have them come to the office each week for their treatment.

This shows the parents that we are taking active interest in the children and I feel sure that we should work along these lines, not only for the sake of the great humanitarian good that it will do, but because, mark you, if we do not do it, our brothers who have so much to do with the spine will not be spineless. Further, I think that each county will urge its members to make semi-annual examinations of their people. This will show the people that the physician has an interest in them and will put more money in his pocket; ten or fifteen dollars each year from each person examined.

In closing, let me say that I am often deeply hurt at the remarks that I hear members of my profession make about their brother practitioners. The words "crook and robber" are too common on their lips. I am sure, this is very thoughtless. How can we expect to have the people trust us and pay us high fees, when we breathe the spirit of hate and distrust among each other? When we have patients come from another physician, we must remember that it is our duty to be very careful not to say or act out anything that will hurt his character, and not to make any reflections as to his professional ability. This may be hard to do, sometimes, but, let me tell you, it will pay back dividends to us and bring the professional confidence of the public back, which we have almost thrown away.

G. G. Balcom.

Lake Wilson, Minn.

PATHOGENESIS OF HABITUAL CONSTIPATION

Intelligent treatment of constipation requires an understanding of the various types of constipation, and the pathogenesis thereof. One of the most common types is the so-called habitual constipation.

We use the term habitual constipation only when we are dealing with a purely functional disorder. Chronic constipation, strictly speaking, is a disease caused by various anatomic lesions within the intestinal tract and outside of it. In other words, chronic constipation should be considered as a symptomatic manifestation of various lesions within or without the intestine. This symptomatic constipation must be clearly differentiated from the functional disorder. The functional or habitual constipation is a condition primarily involving the peristalsis of the colon, although the underlying causes may be higher up in the gastrointestinal tract, in the nervous system or elsewhere.

Habitual constipation is a neuromuscular disorder of the colon. The motility of the

colon is affected, the peristalsis is either diminished, becoming flaccid, or overstimulated, becoming spastic. But, the smooth muscle walls of the large intestine show no anatomic changes. We find no evidence of muscular dystrophy or atrophy in pure cases of habitual constipation. The muscles are capable of normal response to stimulation. What is lacking is the normal stimulation and nervous control.

The peristalsis of the intestinal wall is an automatic function controlled and innervated by Auerbach's plexus. This plexus is stimulated directly by the intestinal contents and controlled by the automatic nervous system. The stimulation from the intestinal contents is a two-fold process, both the physical and chemical qualities exerting an influence.

Under the physical control, we understand the stimulation of peristalsis by the bulk of the fecal matter. Food residue, or any other unabsorbed material in the colon, by its presence, stimulates peristalsis. In cases where the residue in the colon is insufficient, we get a lack of normal stimulation of peristalsis and, as a result, an habitual constipation. This form of habitual constipation is due entirely to improper diet, a diet which is poor in residue and largely absorbed in the small intestines. We see it occur temporarily, for instance, in people confined to bed on a soft, solid diet, as in acute febrile conditions and after operation.

The intestinal contents control the colonic peristalsis also in another way. There seem to be certain materials which act chemically to influence the motility of the colon. Some of these materials are found in foods or in the products of digestion, others are found in the secretions of the intestinal tract or other tissues. Cholin, of the intestinal secretion, seems to exert a powerful stimulating influence on peristalsis. Bile stimulates peristalsis. There is some evidence that the spleen secretes a hormone which stimulates peristalsis (von Noorden). In general, few definite facts are known about this type of intestinal stimulation, beyond the proven factor of chemical control of peristalsis.

Auerbach's plexus, which motivates intestinal peristalsis, is also influenced by the automatic nervous system. This control is complex. In brief, we can say that the vagus stimulates directly sections of the colonic musculature. Thus, anything that stimulates the abdominal vagus increases peristalsis, while stimulation of the abdominal (sympatheticus splanchnic plexus) diminishes peristalsis. The vagus and sympatheticus normally maintain an equilibrium. Eppinger and Hess have demonstrated that one being in a state of hypertonicity may predominate over the other. Thus arises the condition known as vagotonia, if the vagus predominates, or sympàtheticotonia, if the sympathetic nervous system predominates. This predominance of one section of the automatic nervous system may be generalized, or localized only to a small portion of the body. They have also demonstrated that the vagus or sympatheticus may be exceedingly labile and pre-disposed to irritation. Furthermore, the vagus may be hypertonic in one place, the sympatheticus in another in the same person at the same time. Thus, under the x-ray, we can frequently see demonstrated atony in some portion of the colon, more frequently in the cecum, simultaneously with spasm in another portion. The atony is due to sympatheticotonia and the spasm to vagotonia.

If the abdominal autonomic nervous system is labile either as a result of general instability or as a local process, we get an habitual constipation in one of the three following ways:

1.—The sympathetic nervous system may be hypertonic, its depressing effect upon Auerbach's plexus overcoming the stimulating effect of the normal vagus. As a result, Auerbach's plexus is depressed and peristalsis diminished. The causes are either local or generalized sympatheticotonia, reflex or toxic irritation of the abdominal sympatheticus. The same may be due to lead, nicotine and other drugs.

3.—Lessened tonus of vagus (hypotonia of vagus). In this condition, there is lessened stimulation of Auerbach's plexus with lessened peristalsis. The causes are: either generalized or localized hypotonia of the vagus, centrifugal and reflex depressions or low grade generalized toxemia. Drugs, such as atropine or nicotine, may cause it; likewise, inflammatory conditions, such as peritonitis.

Both of the aforementioned conditions may be present in the same case. The effect in both conditions is the same; namely, lessened peristalsis.

3.—The labile autonomic nervous system may cause constipation in another way. There may be hypertonicity of the vagus fibers, which innervate the intestinal musculature directly without the interposition of Auerbach's plexus. This produces spasmodic contractions of the intestinal wall, probably affecting only minute segments. Poisons, like muscarine, physostigmine and pilocarpine may give this

effect. The causes may be centrifugal, psychic or reflex. Hypertonus of the vagus is probably the only cause of spastic contractions of the intestinal tract, barring spastic contractions of the anal sphincter, which is innervated in an entirely different way.

There is still another type of habitual constipation, known in the literature as dyschesia. It affects the lower end of the sigmoid and rectum. This form may be simply symptomatic of some disease, where anatomic lesions are present, as tumors, hemorrhoids or strictures of the rectum. It may be functional, without demonstrable lesions. This is the form we shall discuss here.

In this type of constipation, the fecal matter reaches the sigmoid in normal time, but the normal stimulation to defecation is lacking. In defecation, both voluntary and involuntary muscles play an important role, abdominal pressure being an important factor in the process.

In a portion of the cases, the constipation is due to inefficient emptying of the rectum. This is largely due to lack of stimulation of needed involuntary muscular contractions of the mucosa. In these cases, intraabdominal pressure will cause no defecation. Here the ampulla is filled with feces and dilated beyond its normal extent. Nevertheless, the reflex of defecation is not carried through. The reason for it is hard to find. Undoubtedly, bad habits in persistent voluntary suppression of defecation have an influence. The habitual use of enemata works in a similar fashion.

At times, the cause of dyschesia lies in the voluntary muscles—weak abdominal and pelvic walls. This may be constitutional or due to general debility. In women who have given birth to children, the overstretching of abdominal walls and lacerations of the perineum may cause it.

At times dyschesia is due to pain on defecation, as in cases of hemorrhoids, fissure in ano, ischiorectal abscesses, etc. Then, we get either reflex spasms of the sphincter or relaxation of peristalsis above.

These are the various forms of habitual constipation. When we analyze them as a group, we come to the conclusion that one group is due to deficiencies of diet, either in supplying insufficient food residue or inefficient chemical stimulation of peristalsis. Another, by far the largest group, is due to instability or excessive irritability of the autonomic nervous system: these cases may be due to endocrine dysfunction. The third group, the rectal type, is either due to poor hygiene or weakness of muscles.

I. R. JANKELSON.

Boston, Mass.

MORNING VERSUS EVENING DEFECATION

Recently, I read an article by a physician, who writes articles on health for the magazines, in which he advises a purgative by which the bowels are to be cleansed at night, rather than in the morning, as advised by Dr. Adolphe Burggraeve, and practiced by myself during the past thirty-five years.

I look upon the doctor's advice as faulty, in that, by his method, a part of the food taken in the latter part of the day is not fully ingested and, consequently, that portion is lost in the reconstructive action of metabolism.

The Burggraeve method, on the contrary, that of taking a saline in the morning before eating, accomplishes its work before the morning meal has commenced its work of digestion and clears the primviæ of all waste leaving the new day to take care of all of the nutriment provided for the succeeding twenty-four hours. This plan was practiced for many years by the Belgian professor and, as a result, he lived and worked with an active brain until his ninety-fifth year.

The writer, as already stated, has pursued this method for thirty-five years and now, in his eighty-fifth year, enjoys the best of health, a clear mind and a physical activity which puts many younger men to blush when they walk with him during his exercise hours.

W. T. THACKERAY,

Fowlerton, Texas.

"THE PROBLEM OF DENTIFRICES"

I have been greatly interested in reading the article in the May number of your journal (p. 303) and the replies from the various dentists to the questions which you asked them.

I have made an extensive study of a number of the points pertinent to this discussion, and I am sure that you will be interested in hearing some of my observations.

It may be perfectly true that charcoal, used as a dentifrice, is harmful and objectionable; yet it does not follow that all powders used in dentifrices are equally objectionable.

When charcoal is pulverized, it breaks up into smaller angular slivers. Its cellular structure and the ease with which it is pulverized would lead one to believe that it is softer than is really the case. Coke, a different form

of carbon, is well known in industry to be one of our most abrasive substances. I have often observed in some of my researches that charcoal may readily be converted to a coke-like form of carbon through the use of higher temperatures. This treatment greatly increases its abrasive qualities. In the ordinary method of charcoal formation, the thin edges of the cellular particles may assume this structure which is not common to the entire mass. In any event, charcoal, although apparently a soft substance, is really a sharp, comparatively harsh abrasive.

A very important point in connection with the discussion raised by your argument is that charcoal is truly insoluble; whereas powdered chalk most suitable for use in dentifrices is, under conditions which maintain in the mouth, appreciably soluble. Such a chalk, properly manufactured, is free from all sharp-cutting edges. Its particles are very much finer than it is possible to pulverize all particles of charcoal used in the experiments you have referred to, but any of these fine unabrasive particles of chalk which may remain in the mouth will gradually be dissolved and removed, and will not accumulate as will the sharp-cutting particles of truly insoluble charcoal, to which you have referred.

If charcoal used in a dentifrice is harmful for the reasons mentioned, other insoluble sharp powders may also be harmful to the same, or even greater, degree for the same reasons. Among these might properly be included powdered pumice and tricalcic phosphate. This latter powder, although not so hard as pumice, is, nevertheless, harder than some exposed portions of tooth structure and it is generally sharp and harsh in character. Neither of these substances is soluble to any appreciable extent in carbonated saliva as is finely-divided chalk.

Several of the doctors who have replied to your question have recognized a sharp structure of powdered charcoal, and I am sure they would place abrasives, such as pumice and tricalcic phosphate, in much the same category; whereas, I doubt that any of them would consider the softer finely-divided non-scratchy calcic carbonate in the same class. Certainly, not if they call to mind the fact that any small quantity remaining in the mouth would quickly dissolve in carbonated saliva. Although dentists frequently recommend pumice for special cases, it is doubtful that anyone would recommend it for regular use.

It is the observation of probably the great majority of dentists that the use of a dentifrice containing soap and finely-divided, non-scratchy chalk gives the most satisfactory results in continuous use, that it cleanses the mouth and teeth with a proper degree of safety, and that, if such continued use is supplemented by a regular visit to the dentist at, say, about six months' intervals, the treatment can not be improved upon. Such cases as develop disease or other irregularities call for the attention of a physician or dentist and can not be properly treated by medication in a dentifrice that is also suitable for regular use.

MARTIN H. ITTNER.

New York.

DAKIN'S SOLUTION AFTER SEVEN YEARS

History demonstrates much of interest and value in our rapidly growing therapeutics. Manufacturing chemists, both synthetic and pharmaceutical, offer the profession an increasing number of products, many with claims of large value and names of obscure meaning that it requires a loose-leaf dictionary to even record them. Herein lies the value of the Council on Pharmacy and Chemistry of the American Medical Association as a clearing house for the advantage and protection of all concerned.

However, there are products which are supported by independent scientific societies and observers other than the Council on Pharmacy and Chemistry, who have no financial interest in the exploitation of them. We record among them such products as insulin, tryparsamide, and Dakin's solution.

Seven years of medical history has about classified Dakin's solution in its proper place as a germicide, both as to its clinical value and its practical place in applied therapeutics devoid of the enthusiasm that surrounded its introduction.

Realizing the drawbacks surrounding his original solution, Dakin proceeded further in his investigations and developed both chloramine-T and dichloramine-T, each with properties common to itself and advantages over the other.

As to Dakin's solution, nothing has developed from years of experience to discount the product or rob it of any basis to the claims originally put forth. There are few, if any, changes in the pathology of disease. There are no changes in the therapeutics of definite remedial agents. The pathology of inflammation, pneumonia or typhoid is practically

classic. The therapeutic properties of morphine are the same as when it was first placed in the Pharmacopeia: the same with aconite, codeine, emetine.

Equally important is the uniformity of human nature which is really what is back of the present position of Dakin's solution. The product will produce definite predetermined results if properly made and rightly handled; but, most of us are "as lazy as we dare be" and Dakin's solution, on actual investigation, is not being used as it might and should be if its preparation were *easier*. With the demands of military insistence, Dakin's solution was properly made, tested, checked and used and, therefore, the brilliant results reported.

"This preparation is essentially an aqueous solution of sodium hypochlorite containing 0.45 to 0.5 percent NaCl O so made that it is and remains substantially neutral", to quote the Dakin Handbook of Antiseptics.

The problem is one of human nature, not chemistry or pharmacy. This is appreciated when you consider that titration must be made every twenty-four hours to be sure the solution contains not less than 0.4 percent or more than 0.5 percent sodium hypochlorite. Otherwise the product is either less efficient or irritating and disappointing results are certain.

A survey of the larger hospitals in our larger centers shows a good percentage of them using the Carrel-Dakin drip method of wound sterilization. We must bear in mind the socalled "explosive" action of sodium hypochlorite in contact with proteins and pus. Remember also its digestive or solvent action and the advantage this means. Dakin's chloramine-T (better known as chlorazene) is less solvent and less "explosive"; therefore, is slower in action over a longer period of time. Chlorazene is probably effective for 20 minutes as against the 24-hour action of dichloramine-T.

The Carrel-Dakin drip method is therefore a necessity in using Dakin's solution, but not at all necessary or even applicable in the use of his two synthetic germicides.

Experience suggests, therefore, the selected study of all three products, using them only where they are properly prepared and rightly used. While Dakin's solution is being used less and less, we maintain it has a distinct field of undoubted value for the careful therapeutist. Meanwhile, chlorazene and dichloramine-T will have the larger prominence because of the ease of administration.

Chicago, Ill. FRANK B. KIRBY.

BEVERLEY ROBINSON (1844-1924)

Dr. Beverley Robinson died on June 21. He was the last of the old-school physicians of New York City. He was the first American physician to receive his degree from the Faculty of Medicine, Paris, and worked with such men as Père Gosselin, Béhier, Nélaton, Maisonneuve, Trousseau, Dieulafoy, Duplay, Debove, Charles Périer, Bouchard, Rendu, Landouzy and Netter. Dr. Robinson was a thereapeutic optimist.

Perhaps this quality was inherited from the teachings of the eminent therapeutist, Trousseau, and, during the past few years, he often called attention to the valuable works of this master; some of which are as valuable now as they were when written, in the sixtjes.

Beverley Robinson was born in Philadelphia, March 22, 1844 and graduated from the University of Pennsylvania in 1862. In 1863, he enlisted as a private in the first regiment of infantry, N. G. P., and had a short, but active campaign. He was under fire at Carlisle and Hagerstown. In 1864, he began the study of medicine in Paris. He was under Père Gosselin at the Pitié hospital (where Babinski now has his famous clinic), and at the Hôtel Dieu, the oldest of Parisian hospitals, when the epidemic of cholera broke out and this hospital was a literal "death house", so many patients dying of the plague. The post-mortem room was a blackened hole underground.

At the time he graduated from Paris, his colleague was the late Dr. Thomas Curtis, of Boston. Dr. Robinson tried to enlist in the ambulance corps in Paris, at the time of the siege of the city, but was unable to do so; therefore, he went to England to complete his studies. He did a great deal of confinement work in the slums of London.

After the Commune, he went back to Paris and became intern at Sainte Eugènie hospital. He returned to New York to practice but did not remain there very long; he decided to go back to London to take up the study of throat diseases and received his diploma after six months' service. He was one of the first physicians in New York to specialize in Nose and Throat diseases, and his book on Nasal Catarrh was one of the first of its kind. He did not care for this specialty so much as he did general practice and, when a second edition of this book was called for, he could not write it because he was too busy. He practiced at Newport during the summer, where he was the family physician of some of New

York's oldest families.

Robinson's simplicity was a mark of his greatness; a perfect gentleman, it was always a pleasure to visit him. Although just past eighty, Dr. Robinson was very active mentally and wrote for medical journals and newspapers. He was greatly interested in prisoners and prison reform and gave a great deal of thought to the solution of their problems. The prisoners loved to talk with him.

Dr. Robinson was a very kind man, like the late Dr. William T. Bull, who was his friend. A great physician, a noble man—to repeat, a perfect gentleman. The world is richer for having harbored him.

MALFORD W. THEWLIS.

New York City, June 22.

QUININE DIHYDROCHLORIDE IN OBSTETRICS

In a few instances, I have administered, intravenously, quinine dihydrochloride, 5-grain ampules, and got results instantly. Uterine contractions set in promptly and the child was delivered more promptly than after pituitrin. Its indications and contraindications are the same as those for pituitrin; and they are the same in inevitable abortions and premature labor.

I do not think the remedy safe in cases where there is a heart lesion.

It is best to instruct the patient that she will feel a hot flush and feel drunk for a few minutes. Allay her fears. She will get so busy immediately that she will forget everything else. The tonic quinine capsules, so often prescribed in malarial districts after confinement, will not be needed. Over thirty years since, I remember our old professor in obstetrics warning us that large doses of quinine, especially in primiparæ, would sometimes precipitate labor and cause laceration (we did not have the intravenous medication then). Reasoning from his fact, once when I was far out in the country, had no quinine capsules, no pituitrin, but only an ampule of quinine, I applied it. There was a vertex presentation, good dilatation, second child, insufficient contractions. I gave the quinine intravenously. Pains set up at once and child was delivered in five minutes. Since then, I have used quinine intravenously with six patients, and with the same results; I had employed it also in one case of inevitable abortion.

I should like to know if others have used quinine intravenously, the same way, in obstetrics, and whether I am late in learning the method. It would not do to advise the indiscriminate use of so potent a remedy; but, within its indications, it is a wonderful help.

FRANK BATES,

Coalgate, Okla.

CHEMISTS FIND A WAY TO PREVENT SUNBURN

A well-known pharmaceutical firm of Chicago recently announced a skin cream said to effectually protect one against the ravages of the midsummer sun. This unique product contains a chemical which intercepts the light rays that burn and freckle and otherwise mar the skin, particularly of fair-complexioned people.

There is a notion abroad that the thermal or heat rays of the sun are responsible for such troubles. That is not so. Sunburn, on the contrary, is the work of irritant non-thermal rays known as the ultra-violet.

One of the chemists who helped develop this product gives out the following information in reference to sunburn and its prevention:

"Radiation from the sun is classified as infra-red, visible, or ultra-violet according to the wave length. The infra-red portion consists of wave lengths greater than 0.75 micron (a micron is one-millionth of a meter) and contains the heat waves. The visible portion includes all the waves visible to the human eye (between 0.75 and 0.39 microns), the longest waves being red and the shorter ones shading off into orange, yellow, green, blue and violet. The ultra-violet, containing all waves shorter than 0.39 micron, is invisible to the eye and is the portion that is entirely responsible for sunburn, tan and freckles.

"When solar radiation strikes a body, some of the waves are reflected while others are absorbed and still others transmitted. Some substances, like lampblack, absorb nearly all of the waves. Others, such as window glass, transmit most of the infra-red rays, and all of the visible but absorb nearly all of the ultra-violet. Some, however, have a more selective absorption. A sheet of hard black rubber absorbs visible and ultra-violet radiation but is transparent to infra-red. Red glass transmits only red and some infra-red, but absorbs all other waves, while blue cobalt glass transmits only blue and violet.

"In our search for a material that could be used to prevent sunburn and freckles, it was

necessary to find a substance that would absorb all of the ultra-violet. Furthermore, the substance had to be one that could be incorporated into a cream and thus applied to the skin in an invisible layer and be absolutely harmless.

"This search was greatly facilitated by the instrument known as a quartz spectrograph. In this apparatus, there is a source of light, rich in ultra-violet, a quartz prism which separates the light into its various wave lengths, and a photographic plate to record the results. In this work the human eye cannot be used. By putting various substances in the path of the light going to the prism, certain waves are absorbed and, in the spots where these waves would otherwise strike the photographic plate, a blank space results. Thus, series after series of substances were patiently tried and a few found that absorbed the ultra-violet waves completely but let the others pass. These were tested further to determine their fitness in other respects and one substance was finally selected that was far superior to the others. This product is a synthetic organic compound with one of those long chemical names that serve to keep a haze of mystery about the otherwise very practical science of chemistry.

"However, for practical purposes, it is also known as sodium-sunex because of its ability to remove the ultra-violet from the sun's rays."

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

Physiotherapy Aide
Physiotherapy Pupil Aide

The examinations will be held throughout the country on August 6 and September 17. They are to fill vacancies in the Public Health Service and in the Veterans' Bureau throughout the United States.

The entrance salaries for physiotherapy aide in the Public Health Service range from $960 to $1,200 a year; physiotherapy pupil aides are not required in this service. In addition to these salaries, appointees will be allowed quarters, subsistence, and laundry.

The entrance salaries for physiotherapy aide in the Veterans' Bureau range from $1,600 to $2,500 a year; the salaries for physiotherapy pupil aide in this service range from $1,000 to $1,400 a year.

The duties of physiotherapy aides consist of administering physiotherapy in its several branches—massage, electrotherapy, hydrotherapy, mechanotherapy, thermotherapy; active, passive, resistive, and assistive exercises and remedial gymnastics; keeping daily record of the work and progress of each and every patient coming under direction and treatment; making the required reports of the activities of the reconstruction work in physiotherapy.

The duties of physiotherapy pupil aides are the same as those for physiotherapy aides, except that they are pupils under the supervision and instruction of the chief aide in all the work above mentioned.

Competitors will be rated on a mental test, practical questions, and education, training and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. Civil Service examiners at the post office or custom house in any city.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA

Dr. Hubley R. Owen, chief police surgeon, has accepted the clinical professorship of surgery at the Woman's Medical College of Pennsylvania, Twenty-first street and North College avenue, it was announced by Mrs. James S. Starr, president of the Board of Corporators. Dr. Owen becomes a colleague of Dr. J. Stewart Rodman, who will become professor of surgery in place of Dr. George Dorrance, who resigned, a few weeks ago, because of the press of his private practice.

Dr. Owen has been a police surgeon for many years, and is, in addition, surgeon to the Philadelphia General Hospital, assistant surgeon to the Orthopedic Hospital and instructor in surgery at Jefferson Medical College. He is a lieutenant-colonel in the Medical Reserve Corps of the Army and, during the war, had charge of the surgical service at Base Hospital No. 38, Nantes, France. He received his medical degree from the University of Pennsylvania in 1905.

Dr. Rodman, whose father, the late Dr. W. L. Rodman, was professor of Principles and Practice of Surgery at the Woman's Medical College from 1901 to 1908, is associate professor of surgery at the Graduate School of Medicine, U. of P.; associate surgeon to the Presbyterian and Bryn Mawr Hospitals and neurological surgeon to the Philadelphia Gen-

eral Hospital. Dr. Rodman also performed important medical services in France during the War, and is secretary-treasurer of the National Board of Medical Examiners.

Dr. J. Ralston Wells has accepted the associate professorship of surgery, it was announced by Mrs. Starr. He is at present associate surgeon to the Philadelphia General and Presbyterian Hospitals. During the war, he ranked as a major, serving as the head of an operating team. Dr. Wells is a graduate of the University of Pennsylvania, Class of 1912.

Dr. B. B. Neubauer, associate surgeon to the Philadelphia General and Presbyterian Hospitals, will become assistant professor of surgery. He was graduated from the University of Maryland in 1911. During the war, Dr. Neubauer was a major in the Medical Corps, and served with Dr. Joseph Blake at his hospital outside of Paris, and was later in charge of the neurosurgical service, General Hospital No. 29, Fort Snelling, Minn.

Dr. Walter G. Elmer, who has been clinical professor of orthopedic surgery, will continue in this capacity.

"A SUCCESSFUL TREATMENT FOR ECZEMA"

Dr. J. A. Dungan, Greeley, Colo., contributed an article to the June number of CLINICAL MEDICINE (p. 390), entitled "A Successful Treatment for Eczema". In this article he made the statement that he would be glad to send a sample of the ointment, which he had found so successful, to any doctor requesting it. So many doctors wrote for samples that the supply, on hand at that time, was not nearly large enough for the demand.

However, Doctor Dungan wishes us to announce that another and larger supply has been prepared and that samples will be sent to physicians desiring them.

UNUSUAL COURSE OF LABOR IN A CASE OF PLACENTA MARGINALIS

The patient's husband first reported to me on May 3, stating that his wife was about eight months pregnant and had been flowing for the past two weeks. There had been quite a severe hemorrhage at the onset, but she had remained in bed since then and, with the exception of passing a few clots now and then, the flow was not excessive. There were no symptoms of anemia. I advised him that the hemorrhage was due to a premature separation of the placenta or a low implantation or probably both; but, as such a long period had elapsed since its onset without any alarming developments, and as she felt active movements in the child, I would not evacuate the uterus until the hemorrhage developed to such a degree as to endanger her life. In two cases of similar hemorrhage during the later months of pregnancy, I adopted this conservative policy and pregnancy went to full term without mishap.

On the evening of May 5, I was asked, by telephone, to come at once, and I burned up twelve miles of road in a hurry. The patient was discovered in good condition but very nervous and anxious, as she had passed several more clots that day. Vaginal examination revealed, one-finger dilatation, vertex easily palpable, very high in pelvis and floating. Blood examination showed a hemoglobin content of 90 percent. As there was no placental tissue presenting and fetal movements were active, I decided on an expectant course and left some bromide tablets. The husband reported, three days later, that she was feeling much improved and had slept well.

On the morning of May 11, I was called again and found the patient in labor. Upon making examination, I discovered a large mass of placental tissue in the mouth of the cervix. There had been quite a lot of bloody discharge, but not a dangerous loss, and there was no evidence of exsanguination. This was rather puzzling, but I concluded that, the quicker this state of affairs could be terminated, the better. I grasped as large a portion of the placenta as I could and, with steady, gentle traction freed and delivered what appeared to be the entire placenta. As dilatation was complete, with regular pains, and a history of easy labor in previous pregnancies, I decided that ½ Cc. of pituitrin would empty the uterus as rapidly and safely as any other method. Twenty minutes later, the child was delivered, an umbilical cord not more than fourteen inches long being coiled once around the neck.

I waited the usual time for the rest of the placenta to be expelled and wondering why there wasn't any hemorrhage. At the end of fifteen minutes, I attempted Crédé, but without result. I made a manual exploration and extracted the membranes, to one side of which was attached the cord. No more placenta could be found. I then examined the placental tissue that had first been extended and discovered it to be intact. Near one edge was a broken surface where the cord had evidently

been free and was covered with a fibrous membrane.

The child was dead and apparently bled white.

In view of the fact that there was no placenta presenting at the previous examination, what caused it to be expelled before the child? Does the cessation of circulation in the fetal side of the placenta have any effect in loosening it from the uterus? Did the cord tear off with the onset of labor or after the placenta was expelled? Would this short cord around the neck have made a version and extraction impossible? Was the hemorrhage during labor maternal or fetal? If not maternal (and there was no indication of it in the patient's condition before or after), how can we account for such a complete separation without more hemorrhage? Will some bright mind answer these questions?

G. J. WARNSHUIS.

Forman, N. D.

LIGHT, SIGHT AND SAFETY

Faulty lighting and poor eyesight "are today the major factors in one out of every eight accidents", it is asserted by R. E. Simpson, engineer of the Travelers Insurance Company, Hartford, Conn., in a report to the Eye Sight Conservation Council of America, which is carrying on a nation-wide campaign for better vision in education and industry. Fully 66 percent of American workers have defects of vision, according to the report.

In pre-historic times, Mr. Simpson points out, the safety of both man and beast depended upon acuteness of vision. The only natural agent producing glare was the sun; but, with the introduction of gas and electricity as illuminating agents, the eye has been forced to contend with new perils.

"Accidents do not simply happen more or less haphazardly, but are caused—there is an underlying reason back of every accident," the report continues. "Often there are many factors not apparent at the time and place of an accident that have some bearing on the cause, and nowhere is this so true as in the matter of ability to see.

"There is indisputable evidence that the momentary and temporary blindness caused by workmen having unshaded lamps close to their eyes and in the direct line of their vision is directly responsible for many industrial accidents. There is also evidence of accidents because of this same kind of blindness due to the specular reflection—more commonly known as glare—from brightly-polished material within the range of vision. These and many other evils of illumination prevalent a decade ago were reflected in the accident rate to the extent of being decidedly contributing factors in one out of every four accidents.

"During the intervening years, there has been a decided improvement in the working conditions in our industrial plants. The principal outward manifestation of this is the general toning up of the physical condition of shops and factories. Accompanying this, there has been a gradual improvement in the illumination both as to higher intensity levels and proper use of lighting equipment, thus correcting faults of distribution and glare.

"Notwithstanding all this, we still have an appalling number of accidents every year and improper illumination and defective vision are today the major factors in one out of every eight accidents. Sight is the most valuable of our endowed or natural senses for protection against bodily injury and any impairment of vision or reduction in our ability to see decreases our natural protection by just that much. We possess the sense of sight due to a stimulating agent—light waves of definite length—passing through the eye to the retina and the impression being relayed to the brain. If there is little or no light in a room, there is little or no stimulation and, therefore, the impression of the room is either vague or blank. There may be adequate light in the room but, if the eye fails to function properly, the impression is blurred, indistinct, or blank, depending on the degree with which the eye fails to function. Obviously, these two factors, defective vision and improper illumination, are joined when considering accidents and illumination.

"The traits and characteristics shown by an individual from birth on into maturity are simply a single reproduction of the evolution of mankind. The survival of the fittest—self preservation—was the first law of nature and of the individual hundreds of thousands of years ago, just as it is now. The modern child has a different set of obstacles to overcome and he has different artificial aids to help him along; none the less, it is only the fittest who survive as such. Good vision was a prime requisite for the safety of the child in ancient times, just as it is of the child of today and, in this respect, the former had the greater advantage. For ages, the sun, moon and stars were the only sources of light, supplemented at a later period by the open

fire and wood torch. None of these are irritating to the eye except the sun, and it is so irritating that ordinary self-defense prevents one from staring at it.

"There were no glaring lights, no study in the modern sense nor any form of human endeavor requiring close eye application such as characterizes present-day life. In due time, nature developed the eye into an organ functioning best for distant vision and low brilliances; for those not so endowed fell by the wayside and became extinct. Man today, therefore, is naturally slightly hypermetropic or far-sighted, but because of present-day demands on the eye the majority of us have defective vision before reaching middle age.

"There has been a gradually increasing demand on the eye during the period of recorded history; but, it was with the introduction of gas and electricity as illuminating agents and their widespread use during the last half-century that the eye demand curve showed an abrupt rise. We know that nature responds to change of conditions at a slow moving pace. We can not logically expect the eye developed for normal distant vision to adapt itself overnight to the marked changes in demand. Instead, we have modern man afflicted with a variety of eye troubles that are prejudicial to his health, earning-power and safety. We find that much of this trouble has its starting point in the period between childhood and the end of the elementary school years.

"Fairly comprehensive investigations have established the fact that fully 60 percent of our children in school have defective vision. A certain percentage of these defects are either inherited or brought about by misuse of the eyes before the children enter school. With this start and the average unsatisfactory school lighting to help along, we find a material increase in the number of children with defective vision at the end of the high-school period when compared with the number at the beginning of the school period.

"Industry must go on and there is a constant demand for new workers to take the place of the aged and infirm. The supply to meet this demand is composed largely of graduates from our elementary schools. The visual demands in almost every form of gainful occupation are fully as exacting as that found in school work, while the illumination is often just as bad. Thus we find that many of our new workers start out handicapped with respect to vision. Here, both the number afflicted and the degree of the affliction increase with age, so that, today, fully 66 percent of our workers have defects of vision.

"Our sense of sight is the primary contributing agent for approximately seventy percent of our muscular activities. In many cases, it is our response or failure to respond to visual impression that determines whether safety or injury results. If indistinct vision causes a delay of even a fraction of a second in recognizing a point of danger, that delay may be just enough to tip the scales to the side of an unfortunate accident. We are confident that this is the explanation for many accidents where the injured person truthfully says he did not see the danger point.

"To bring about an improvement, there is available only a small number of workers for good illumination, and eyesight conservation compared with the magnitude of the task. For, first of all, our homes must be better lighted, and this should be supplemented with intelligent and thorough supervision and care of the children's eyes. The illumination in our schools must be brought up-to-date and annual eye examinations of all children must be a permanent policy. By this latter policy, eye defects are likely to be discovered early and with proper care the trouble may be arrested. Parents, teachers and school boards must be made to realize their responsibilities, that they are guardians of the coming generation, and that the means to assist them in their guardianship are theirs not by asking, but simply by accepting that which is offered them by experts. There is immense inertia to be overcome and a vast amount of work to be done, principally of an educational kind, before much progress will be noted. Until this is done, we may be sure that many puzzling accidents could be explained if we could peep back into the injured person's life and ascertain the kind of 'illumination' and eye care he had between the cradle and the time he started to work."

Let Us Play

Conducted by All of Us

Seeking a Thrill? Here 'Tis

The Corpse Arises: The Witch Works Wickedness

By C. F. SECORD, M. D., Omaha, Nebraska

THE normal human mind is a curious thing; the abnormal infinitely strange and devious in its workings. Both kinds are dwelling upon relaxation, play, rest, change, at this time.

Some years ago, a patient died in a public institution for the insane in the capital of one of our neighboring republics. As is the custom down there the body was placed in a casket, in the chapel of the establishment, and, surrounded by lighted candles, there awaited burial. Death was an event to break the monotonous existence of the numerous inmates, and they seemed more than usually curious, a crowd surrounding the corpse, to examine it, to debate its stillness, to question the why and wherefore of the ceremonies attendant upon the passing of one of their number. They were, however, respectful and, anticipating no trouble with them, the sisters and others in charge relaxed their usual vigilance and left them free to come and go to and from the chapel as they would.

In the room was a large empty cabinet. After debating the matter for some time, the corpse was taken carefully from the casket and placed in the cabinet, which was then locked. Another debate decided which one of the number should take its place. One man, carefully climbing into the coffin, imitated perfectly the immobility of the erstwhile occupant, even to the classical folding of the hands on the breast, supposedly the proper thing for all good corpses.

The audience finally retired; night came on. Probably overcome by the heat from the numerous candles, the supposed "dead" man fell asleep; and, of course, slept the deep sleep of the thoroughly relaxed. Toward dawn, preparations were made to conduct the funeral ceremonies. The attendants filled the chapel, and the sisters busied themselves with prayers for the soul of the departed. Of course, there was more or less noise, and this disturbed the "corpse". He attempted to turn over in his narrow bed, but was not successful. Then he sat up and stared at those busy about him.

Shrieks filled the room. The sisters thought the dead man was about to abandon his rightful place and some of them very properly fainted.

A hurried investigation was made and, when the occupant of the coffin explained the substitution, the cabinet was opened, the one found there again placed in the casket, and the interrupted ceremonies proceeded to a classical finish.

In one of the Central American republics, there are some fifteen volcanoes, many of them thousands of feet into the air and one of the number is sporadically active. This active volcano is very large and covers several miles of territory, its ample sides being clothed with dense forests. Hundreds of Indians live here, and upon small cleared patches they raise sufficient corn, beans and other things, also selling firewood, which they carry to the nearby city on their backs. These Indians are all members of an ancient secret society concerned with perpetuating the rites and ceremonies attendant upon fire worship. The head of this society inherits the office from his father, as it always goes to the eldest son, in direct line. There is also an old woman, a witch, a dreamer of dreams, a superstitious old hag. Could we decipher the hieroglyphics chiseled into her bronzed face, we might, in a small measure, understand the depths of evil whose history is written in the convolutions of her brain. The deep lines on her face are merely superficial proof of what she really is.

It is great sport to climb the volcanoes, and gay parties are often made up for exploration of the ancient craters and more difficult summits. There is no objection to climbing

and exploring anything, anywhere, except this active volcano. The exploration of this one volcano is tabooed; it is sacred to the cult of the weird; the chux-kahoa (wizard) is supreme not only on its distant peak, which loses itself in the clouds, but for miles around it. The uninitiated must not profane its sacred precincts.

However, the unknown is sought; the strange must be explored, and a party of five men and a dog, with food and blankets, determined to climb this forbidden mount, undismayed by tales of bolts of fire, of death-dealing things at its summit. The party should have numbered others, but some were delayed, among them a physician who, while desirous of the outing, was unable to leave urgent cases at the moment.

So, setting forth from the city, gay with prospects of a pleasant relaxation from work, the little party of five made their way to the distant volcano. They reach the narrow path which they must follow to the peak, around and around, for miles. And, of course, they notice, but paid little attention to, the old hag sitting in the doorway of a hut where the path began the ascent. On they toiled, and far into the night they reach the forbidden place, the summit of the great volcano, where they found a cleared spot and an enormous stone altar. They built a fire, prepared their food and, wrapping themselves in their blankets, gave themselves to the sleep of the exhausted. They had reached their goal, and on the morrow would leisurely explore the mysteries of the craters at the peak of the mountain. But, on the morrow, they probably explored the Land of the Unknown, the Xibalba of the ancient Indians of Central America.

Returning to the old witch; hate gleamed in the cataracts of her eyes, and she sent for the head wizard, who came at once. To him she related how, in a dream, she had seen the hated foreigner, with a party of friends, carrying bags and traveling toward the summit of the volcano. They were, no doubt, seeking the extinction of the Indians, so that they could seize their lands; they were most certainly carrying that dread disease, smallpox; they would open their bags on the summit of the volcano and throw the contents to the winds, which would waft the sickness to the huts of the Indians, and they would all die. So the gods had told her. The old man listened, as to an oracle; some of the young men were called, the great drum was beaten, and the inhabitants of the mountain flocked to the witch's hut, where they were informed of the profanation of the sacred mountain peak. A council was held, and several of the bravest chosen as revengers. They at once began the ascent of the mountain, following the path taken by the vacationists. Sometime near dawn they came upon the sleeping party, and killed them all, including the dog. Their blood was then offered upon the stone altar nearby, and a celebration held on the site of the sacrifice.

But the white man's justice was stirring in the city and, as the travelers did not return, a search party was made up. Arriving at the hut of the old woman, they noticed unusual revel of the large crowd of Indians gathered there and, placing them under arrest, forced a confession of the crime. Pursuing their way to the mountain peak they found the members of the venging party, and also discovered the mutilated bodies of the five explorers and the dog.

The vacation of the physician had been prevented, but he was not sorry; the press of work had resulted in saving his life.

This is a true story, and shows the working of the human mind in the ignorant children of nature, controlled by environment and heredity.

I may add that exploration of the volcano is no longer tabooed; law and not superstition rules there now, and with ordinary precautions any explorers may wander at will among the smoking crater, where the awful god of the ancient Indians was supposed to dwell. However, there is some danger, as always, in the lands far to the south of the United States.

NORTHERN MINNESOTA

I am going to step into this department with my little bit to tell you something of the northern part of Minnesota.

In many parts of the good old U. S. A., I have played; but, the northern part of Minnesota in the summertime is an ideal place.

Last summer, I went to Cass Lake to rest and play and to get away from hayfever. And I succeeded in doing all three.

Cass Lake is an old lumber town, located in the county by the same name. It is also an old Indian town. It once had large lumber interests. But, now, it is mostly a resort town with a touch of the rustic.

The man who wishes to play can go there and get a nice cottage all furnished with everything for from $20 to $22.50 per week. There is room for four people in these cottages. I

advise you to be sure and get one with a small, iron stove in it, because the ones with only an oil stove are cold when the damp cold days come.

The water is fine and soft and good for cooking; but it is not very good for coffee or tea. Last season was too cold for bathing, but the boating was fine. As to fishing, I do not fish, so I can not tell you of the big ones that got away.

But, there are so many other things to do. There's the woods. Do you ever tire of studying the woods, the trees, the birds, the flowers?

Here is what I studied most—Indians. I had read and heard a lot about Indians when I was a boy, and so I made up my mind to learn a lot about them, and there is much to learn.

Brother, do you know that the Indian was considered a foreigner; that he had to take out his first and second papers, the same as Johnnie Dago? Well, he did. Do you know that these Outlanders stood kneedeep in snow and slush to get a chance to help Uncle Sam save the good old U. S. A? They did. That's no joke.

Wouldn't you think that Uncle Sam would blush a little when he put on their uniforms? These rank foreigners whose fathers had lived here for over 2000 years!

Then I took up the story of Major Wilkinson and his raid at Sugar Point on Leech Lake. I got the whole story from an Indian preacher who was there before and after, and who was the son of a Chief. But that is another story and will take up a lot of time and space.

G. G. BALCOM.

Lake Wilson, Minn.

Wife and I on Wash-day

Take it any day but wash-day, Wife is sort of decent-like,
She can cook as good a meal as any woman on the pike.
She can bake the finest bread and the choicest frosted cake,
And the pies she bakes are 'bout as good as Mother used to make.
Yes, she's sort of Christian-like, and honest to the core—
But, the wife and I do not agree—on wash-day—any more!

Wife is very business-like, often helps me, out-of-doors.
'Tis a common thing to see her out a rustling up the chores.
On market-days, the eggs are packed the night before. But, say,
When she gets mad, I tell you what! she's in the ring to stay.
I wouldn't tell the neighbors. But, last wash-day, she kinda swore!
So, we are not on speaking terms—that is, on wash-day—any more.

Last Monday was our wash-day, and the weather was just right.
The clothes were not so very black, but I worked with all my might.
I says, "Now, Wife, when we get through, we'll take a trip to town."
And it wasn't quite a minute, 'fore she called me a big clown.
I'd forgot to rinse a garment, which made her awful sore.
So, the Wife and I are far from friends—on wash-day—any more.

Our wash-day is a nuisance in a mere domestic way;
But, it sort of comes in handy; for, sometimes, we've much to say.
She tells me all my many faults, my misgivings, so to speak,
And has 'em on her tongue's end, too, there stored up for a week.
And I tell her diverse things, too; for, she said I was an awful bore.
So, we never count on being friends—on wash-day—any more.

One time, I tried to favor her by hanging up the clothes.
Someway, somehow, I do not know. We nearly came to blows.
If I remember right, she said I was a dirty cuss;
And said, I'd hung some wrong side up to look conspicuous.
I'm glad I do not have to wash when on the other shore!
For, Wife and I now barely speak—on wash-day—any more.

I've often sat and wondered, if others fared the same as me,
Or, if, perchance, it is confined just to our family tree.
But, of one thing I am certain! Of the others that I meet,
I can see much of the bitter that is mingled with the sweet.
Me and Wife have paddled long together and have settled many a score.
But, clouds don't have no silver linin'—on our wash-day—any more.

E. A. NASH.

Peterson, Iowa.

From "Random Rhymes and Poems for Home Folks," which is to appear soon.

What Others are Doing

RELIEVING RHEUMATIC PAIN

A great many physicians are now prescribing phenylcinchoninic acid, otherwise known as cinchophen and also as atophan, in place of the salicylates for the relief of rheumatic pain and congestion. The general impression is that the new drug is more reliable in its effects; from this there is but a small minority of dissenters. The drug is also accredited, by most of those in position to know, with being better borne by the average patient.

But phenylcinchoninic acid, while meritorious, is by no means as harmless as milk sugar. Some care and judgment must be exercised in giving the drug. It should be administered in practically all instances along with an alkali, such as sodium or calcium carbonate. The patient's urine should be watched for possible renal irritation. It has its contraindications, among which is nephritis. As this may be present without being suspected, the need of examining the urine at intervals during the use of the drug is obvious.

A few instances of acute poisoning from phenylcinchoninic acid, but without any fatalities, have been reported; which indicates that some persons are hypersensitive toward the drug, a circumstance encountered, however, in the use of a great many other and admittedly valuable agents.

Barron (*J. A. M. A.*, June 21, 1924) reports a case of acute poisoning following the taking of phenylcinchoninic acid (15 grains). A short time afterwards, the patient experienced a sensation of prickling all over the body, followed by numbness. A sinking spell then came on, with difficult breathing, cyanosis, temporary muscular paralysis, edema of the skin, etc., indicating cardiorenal depression. The mishap affrighted the family as well as the physician in charge, but the patient recovered in a short time.

On the other hand, the great majority of patients seem to tolerate the drug very well. This is clearly shown in the experience of Drs. Boots and Miller (*J. A. M. A.*, March 29, 1924), in sixteen cases of serious joint involvement. The drug in these cases was given at the rate of 15 grains every hour, excepting that, at the first appearance of toxicity, it was discontinued and resumed next day. From 4 to 17 Grams was given in the course of twenty hours. The total amount of drug given from the start to the termination of the treatment varied from 21 Grams (in three days) to 440 Grams (in a hundred and eighteen days). In some instances, as might be expected from such heroic dosage, albuminuria appeared. This persisted in six cases until the drug was stopped. In most of the cases, however, and this is noteworthy, albuminuria showed during the first few days of treatment and then disappeared without any recurrence during the further use of the drug.

It is Barron's conviction that the newer allied drug known as neocinchophen is preferable both to phenylcinchoninic acid and the salicylates, which probably is true. At any rate, neocinchophen has this advantage: it calls for no supplementary alkali against gastric irritation.

GOITER PREVENTION AND TREATMENT WITH IODINE

The maximum quantity of iodine stored up by the thyroid gland in the average person does not exceed 25 mgs. This fact serves as a guide to the dosage of iodine given medicinally for the prevention of goiter. A small weekly dose, say, 1/10 mg., is sufficient. This is the view of Dr. O. P. Kimball, as given in the *Journal of the Michigan State Medical Society, September*, 1923.

Goiter is more frequent in boys than was first believed. Investigation shows the proportion to be one boy to every three girls. The same prophylactic method should therefore be applied to boys.

Iodine should also be given to every expectant mother during the term of pregnancy. If, in goitrous districts, every pregnant woman's thyroid were saturated with iodine, she would not develop goiter nor would there be any tendency to goiter formation in the thyroid of the child.

Iodine is curative in some (especially early) cases. Therapeutically, 10 mgs. daily, for thirty days, is all that should be given;

after which there should be a pause of the same length before the use of the drug is resumed.

The writer warns against the excessive use of iodine and cites three cases that have come under his observation in which symptoms of hyperthyrodism developed, even while the gland showed more or less reduction in size. (One who considers the size of the gland only, as treatment progresses, may be misled. It is its functional activity, as determined by basal metabolism tests, that is important.) In one case, the patient had been taking a dram of syrup of ferrous iodide, three times daily, for eighteen months. As each teaspoonful of this preparation contains 116 mgs. of iodine, the boy was, therefore, getting 498 mgs. daily, or almost half a Gram of iodine, and that for a period of 18 months, during which the total iodine intake was 269 Grams.

That such excessive dosage may lead to active hyperplasia and exophthalmos is quite apparent.

ARCIFLAVINE IN PUERPERAL SEPSIS

Beckwith Whitehouse, M.B., M.S., London, F.R.C.S., Eng. (*The Lancet*, May 31, 1924), in an address on "Puerperal Sepsis," delivered before the Ulster Medical Society at Belfast, has this to say relative to the treatment of septicemia:

"The general treatment of a septicemic patient in my hands resolves itself into the application of the following measures: (a) serum-therapy; (b) autogenous vaccines; (c) intravenous 'acriflavine' with (d) a concentrated and nutritious diet, and a liberal allowance of alcohol."

The author is unable, at this time, to say anything positive about intravenous or intramuscular solutions of quinine bihydrochloride. Intravenous injections of Witte's "peptone" have little value, while antistreptococcus serum with an equal quantity of saline, should be injected intravenously, in large doses. He administers an initial dose of 50 Cc. stock serum with 50 Cc. of normal saline solution and 1 Cc. of serum from a freshly-killed guinea pig, the last to act as a "complement". Similar injections of 30 Cc. without the "complement" are given on each of the two following days.

Autogenous vaccines are of help, but must be given in conjunction with the other treatment. Alone they are of little value.

Acriflavine in a strength of 1 in 250 in normal saline solution has been used for a number of cases in the treatment of puerperal sepsis—and the author believes it does good. In severe cases, it is given intravenously in doses of 20 Cc., morning and evening. In some instances, this treatment has been continued for two weeks until the skin assumed a lemon tint. One patient, with a very virulent infection, recovered with this treatment alone.

QUININE INJECTION FOR VARICOSE VEINS

Although many ingenious operations have been devised for the relief or cure of varicose veins, few, if any, have circumvented the danger of thrombosis and embolism. There are, in fact, few large statistics of excisions of varicose veins in which thrombosis and pulmonary embolism do not figure more or less conspicuously.

Doctor Bardy (*Lancet*, May 3, 1924) has been questioning the possibilities of artificially provoking thrombi which would be more firm and more adherent to the walls of the veins in which they were first formed than the thrombi formed under ordinary conditions. He has found that the introduction of a solution of quinine into a vein not only hastens the rate of coagulation of the blood but also effects changes in the walls of the vein favoring firm union between them and a blood-clot. Dissection of a vein, in which thrombosis had been artificially induced by an injection of quinine, showed that not only was the clot firmly attached to the vein but that its wall was permeated by a blood-stained gelatinous substance.

These investigations recall those of Genevrier in 1922. His solution is: hydrochloride of quinine, 4; urethan, 2; distilled water, 30. The patient sits with legs pendent, the field of operation having been disinfected with iodine. From 0.25 to 0.5 Cc. of the solution is injected, an ordinary hypodermic syringe with a fine-pointed needle being used. It does not matter, and may indeed be advantageous, if a little of the solution fails to reach the lumen of the vein, and is deposited in its wall or in the immediate neighborhood. The site of the puncture is closed with a little cotton-wool and collodium, and the injection is repeated higher up the leg. Genevrier seldom injects more than a total of 4 Cc. at one sitting. The resultant thrombosis is somewhat painful during the first few days, and it is advisable to

defer the second series of injections for a week. Genevrier has given more than 4000 such injections without signs of embolism, and Dr. Bardy has given more than 500 injections to 26 patients without having to register a single accident.

If further investigations should prove that the artificial quinine thrombus possesses sedentary and adhesive properties greatly in excess of those of the accidental thrombus, we may perhaps hope to see the operative treatment of varicose veins entering on a chapter less frequently punctuated by the tragedies of the fugitive thrombus.

SAFE ANESTHESIA

Which is the safest of the local anesthetics in common use?

If the element of safety alone is considered, procaine will no doubt head the list. This view is upheld in the report of the committee recently appointed by the American Medical Association given out by Dr. Emil Mayer, for the purpose of determining the comparative toxicity of the various local anesthetics employed.

"Procaine is certainly far safer than any of the other local anesthetics in use," are the exact words of this committee (*The Eye, Ear, Nose and Throat Monthly*, June, 1924).

The following recommendations by the committee in reference to the use of anesthetics in general deserve republication:

Local anesthetics should not be injected into the urethra when trauma or stricture exists.

Epinephrin serves a valuable purpose in causing a bloodless field and in delaying the absorption of the local anesthetics, especially procaine; but the addition of epinephrin in amounts of 1 Mg. or more to a solution of cocaine often results in a greater degree of toxicity than that from cocaine alone when rapid absorption takes place; hence, the use of larger doses of epinephrin with cocaine is deemed unsafe and this agent should not be used in greater concentration than 1:10,000 and of this not more than 10 minims with cocaine. Somewhat larger total amounts of epinephrin may be used with solutions of procaine, but not more than 1 Mg. should be used, and even this dose may be unsafe in patients suffering with hyperthyroidism.

Where severe toxic symptoms result, efforts should be made to sustain the heart in order that the drug may be carried to the liver, where it is destroyed. Cardiac massage and, perhaps epinephrin in proper intracardiac doses, are indicated when the heart has stopped. The committee can not endorse the views of those who recommended large intracardiac doses of epinephrin and not more than 2 Cc. (30 minims) of a solution of 1:10,000 is recommended. Artificial respiration is indicated, as a rule.

There is no evidence that the inhalation of ether or the injection of morphine has any value as an antidote to local anesthetics, but, on the contrary, the use of morphine in such cases is considered distinctly dangerous. Ether is possibly of value in controlling convulsions.

All doses of local anesthetics, however applied, should be measured accurately. This is manifestly impossible when preparations of unknown composition or concentration, including those that have deteriorated, are used; therefore, the committee condemns their use as unscientific and dangerous.

Dentists (as well as other operators) should use accurately graduated syringes that do not leak, with needles that are properly beveled on the cutting edge. Injections should be made slowly, while avoiding lateral pressure, and sufficient time should be allowed to elapse for anesthesia to develop before an operation is started. The surface at the seat of operation should be tried, if necessary, and sterilized by painting with tincture of iodine or another effective disinfectant.

SAFE TREATMENT IN SYPHILIS

Ordinarily, in treating syphilitic patients, nothing indicating the development of liver dysfunction induced by arsenicals is known, say Drs. Greenbaum and Brown (*J. A. M. A.*, Jan. 12, 1924).

Now, it is a fact that liver dysfunction may be present prior to or without the occurrence of jaundice. That is usually a rather late sign. The patient may have a toxic hepatitis in the ordinary course of antisyphilitic treatment without objective or ever subjective clinical symptoms appearing; the true condition being unknown to the physician as it is to his patient. As a rule, functional recovery occurs, but sometimes a long-continued low-grade hepatitis may terminate in a permanently crippled organ.

One need not, however, work in the dark. By means of the phenoltetrachlorphthalein liver test, performed at intervals, it is possible to determine whether or not the organ is being adversely affected by the arsenicals em-

ployed.

The test is made according to the technic described by Rosenthal (*J. A. M. A.*, Dec. 23, 1922) with slight modifications.

Using this method, the authors investigated arsenic effects upon the liver in a great many patients, who, for one condition or another, had been under treatment with arsenic-containing drugs. Particular attention was paid to patients who had undergone, or who were undergoing, antisyphilitic treatment with the arsphenamines. It was gratifying to observe that permanent damage to the liver was infrequent when a drug of sterling quality was used. It was found in a large series of patients that even with as many as 45 injections the liver function was but slightly or not at all affected. Again, with as many as 124 injections, which in practice is seldom necessary, only about 25 percent of the patients under investigation were adversely affected.

A DESIDERATUM IN URINARY INFECTIONS

As is now generally known, acriflavine is a representative germicide of the dye class, a new and interesting development in chemistry. Since its discovery by Ehrlich, a few years ago, it has attracted a great many users both in this country and abroad. It has properties which are highly desirable in a germicide, being powerful yet more than ordinarily "kind to the tissues", and also active in the presence of exudates. From the first, it proved to be very efficient in wound treatment and for local use against gonorrhea and other types of infection.

Neutral acriflavine is usually preferred for internal use, and also for application to sensitive mucous surfaces, because it contains in its chemical structure no acid molecule and is therefore practically non-irritant.

The slight irritation manifested occasionally by a smarting sensation, incident to the use of the original drug upon mucus membranes, is thus avoided and without any apparent sacrifice of efficiency.

There is every reason to believe that the pronounced germicidal effects of neutral acriflavine, which are so evident in wound treatment, are obtainable in the course of its elimination in the urine when given by mouth. This is inferred both from laboratory and clinical observations.

The fact that the presence of serum or exudates offers no appreciable hindrance to the action of neutral acriflavine, in which respect it differs from most other germicides, considerably enhances its value for internal use. So also does the additional fact of its extremely low toxicity. As 70 times the necessary dose for persons has been given without serious consequences to rabbits, one may assume that the drug is reasonably safe for oral use.

The drug is best given by mouth in enteric-coated tablets, which traverse the stomach intact and disintegrate in the small intestine. The tablets are tasteless; and in taking them one avoids staining the mouth and the teeth with every dose, as well as any likelihood of gastric irritation.

The use of the drug internally as a urinary antiseptic was suggested by researches made by Davis at Johns Hopkins Hospital and the University of Nebraska. Experimentally, in animals, it proved the most effective of numerous drugs investigated (in all nearly 400) for inhibiting germ growth in alkaline urine. From these findings, neutral acriflavine would seem useful in acute urethritis, pyelitis, cystitis, pyelonephritis and allied infections of the urinary tract, as indeed it is; this is attested by many prescribers. In pyelitis, excellent results are reported to follow the administration of the drug.

Given by mouth, the drug is excreted in the urine, and if the urine be alkaline renders it an unfit culture medium for the colon bacillus and the staphylococcus," writes Davis (*Jour. of Urology*, Jan. 1924).

In acute urinary infections, bladder symptoms subside and bacteria disappear from the urine in most cases. In acute (posterior) gonorrhea, decided benefit is usually obtained by giving neutral acriflavine by mouth, especially in conjunction with local treatment (irrigations).

"Failures occur. But the large majority of satisfactory results, and frequent instances of immediate, brilliant and permanent cure, offer sufficient justification for the belief that neutral acriflavine of proper chemical purity, and if properly administered, will eventually be the drug of preference in the treatment of acute gonorrheal urethritis."

DRUG INCOMPATIBILITY

Dr. Percy May has indicated in his excellent article on drug incompatibility, *The Lancet*, March 29, 1924, p. 666, that although it is impossible to give a detailed list of all drug incompatibilities, some general principles may be laid down to guide practitioners in avoiding

some of the pitfalls of promiscuous mixing of drugs. The cases dealt with are those of chemical and physical, but not therapeutic incompatibility.

An apparent chemical or physical incompatibility need not necessarily prevent the useful therapeutic action of the drugs. For example, the products formed by the double decomposition of two substances may be therapeutically equivalent to the original substances. Even if one of the products of the double decomposition is insoluble, it may be quite effective therapeutically, though in this case its formation is undesirable because of the difficulty of insuring accurate and uniform dosage in a mixture containing sediment. On the other hand, the formation of insoluble substances may be very dangerous when these are of a toxic nature.

It is impossible to even mention here the many cases of drug incompatibility mentioned by May. These include the incompatibilities of acids with alkalies; soluble salts which give precipitates, such as silver nitrate and a chloride; and many others. It should be remembered that salts often have acid or alkaline reactions; for example, alkaloidal salts are usually acid in reaction, sodium barbital is quite strongly alkaline, etc.

The presence of oxidizing and reducing agents frequently produces incompatible mixtures. Among the oxidizing agents may be mentioned iodine, chloramine-T, permanganates, hydrogen peroxide, etc. Reducing agents are less commonly employed, but many substances can act as reducing agents in the presence of a strong oxidizing agent. For example, phenol readily reduces potassium permanganate, and it is therefore useless to attempt to use these two bactericidal agents together. Alcohol will very quickly reduce chloramine-T. More definite reducing agents include sulphites and sulphides, ferrous salts, most free metals, formaldehyde, hexamine, etc. One oxidizing agent may reduce another oxidizing agent, as when hydrogen peroxide reduces potassium permanganate or chloramine-T.

Among special types of chemical incompatibility are mentioned chloral hydrate, which is incompatible with alkali. Hexamine is noteworthy among the substances which have many incompatibilities, and caution should always be used in prescribing it with other substances. Calomel, being rather easily oxidized to corrosive sublimate, or giving toxic organic compounds of mercury, should be prescribed with great care and should ordinarily be given alone. Oxidizing agents, including free iodine and its compounds, should be carefully avoided when calomel is administered. Antipyrine is also said to be incompatible with calomel.

The chief physical cause of incompatibility is the influence of one dissolved substance in lowering the solubility of another, whereby the latter is thrown out of solution. This is often referred to as "salting out." Alcohol is likely to throw salts out of aqueous solution. Two solid substances when mixed have the melting point lowered; for example, mixtures of menthol and thymol, tartaric acid and Glauber's salt or borax, form liquid or pasty masses.

There are also a number of cases of incompatibilities of drugs with body fluids, or with each other in the presence of body fluids. On account of the irritant nature of mercuric iodide, dressings of corrosive sublimate should not be used on wounds previously treated with tincture of iodine.

Finally, the solvent used, or the salts contained in hard water, may cause precipitation of a drug.

The many other valuable examples quoted in the article by Dr. May warrant its close study and careful consideration.

NEURASTHENIA BASED ON OCCULT TUBERCULOSIS

In *Endocrinology* for May, 1924 (page 459), Dr. W. Wayne Babcock, Philadelphia, presents a case history that illustrates a problem with which general practitioners are confronted often enough and which they find difficult of solution—because they do not think of the simple and obvious, but prefer to go far afield. The case with Mr. Babcock's discussion follows:

This patient presents numerous rather interesting symptoms referred to many parts of the body. She is 44 years old, married, and has had two children. Eight years ago, she had an operation upon a nasal sinus, preceded fifteen years ago by a severe attack of tonsillitis. Since that time every winter, and nearly all winter, she has had trouble with soreness and choking of the throat. The tonsils are very small, and there is little evidence of disease in the pharynx. She has constantly sought treatment, but of late years the physicians have not introduced their instrument down low enough in the throat to satisfy her. She complains that every night she has constant dryness, soreness and choking in the throat. Her mother died of tuberculosis and the patient has an unproductive moderate cough. She speaks of severe pain and distress in the chest and indeed in every part of the body that is referred to.

This is the type of patient that we have always with us, a patient that suffers constantly and at the hands of many physicians, and really enjoys and devotes herself to miserable health. She has been treated for a great variety of conditions, and often with marked temporary relief, especially if some new or unusual type of treatment were used. If I should wish testimonials for some especially bizarre method of treating disease, I should like to have a series of patients of this type. They give a foundation of reported error for ever new ism, cult and pathy, from Perkin's tractors to Abrams' oscilloclast. We are prone to think of these patients as being neurotic, as having symptoms that are functional or auto-suggestive, and as not having organic disease. They pass from physician to physician, as this patient has passed, now getting better, and now getting worse, and much of the time not being relieved at all. They are undernourished and poorly developed, and often show visceroptosis. Frequently, as in this patient, there is a history of tuberculous contact. If we carefully examine these patients we find that a large number of them have enlarged thoracic and mesenteric lymph nodes. They react to tuberculin injections, often violently. It has impressed me that a very large percentage of these socalled neurotic patients are suffering from a chronic mild form of tuberculous toxemia, manifesting itself by symptoms that are referred to various parts of the body. I am reminded of the fact that the late Weir Mitchell, in his successful treatment of neurasthenia, was using the best treatment for tuberculosis at a time when we did not know how to treat tuberculosis as such. Rest and over-feeding, electricity, fresh air, and elimination of excitement are good things for patients with tuberculosis. I cannot but feel that many of these neurasthenic patients must be looked upon as suffering from mild inactive forms of tuberculosis. They must be protected from the profession, as they crave violent forms of treatment. Particularly do they easily acquire the progressive operation habit. A patient reveals the diagnosis when she has had the coccyx removed and the uterus or kidney suspended. It is a serious responsibility for a physician to start this operative habit. A woman who came to me some time ago had had twenty-eight operations and desired more. It is reprehensible to keep these patients continuously stirred up by local treatments of every accessible organ and to over-emphasize unimportant conditions in tonsils, sinuses, eyes, uterus or other organs. I may be wrong in this case, but it strikes me that the thing she most needs is a good old-fashioned family physician who will advise and protect her and keep her out of surgical clinics, and especially out of group clinics. The best results I have seen in this type have followed the use of tuberculin and an antituberculosis régime.

A STUDY OF BISMUTH EFFECTS

An instructive paper appears in a foreign publication (*Munch. Med. Woch.*, 70, 627, 1923), wherein Felke summarizes his experience with bismuth in the treatment of syphilis. The results, he claims, have exceeded his expectations.

As for by-effects, he has found that, after a certain number of injections, usually during the third or fourth week of treatment, there appear in the urine numerous epithelial cells from the kidneys which are not necessarily accompanied by albuminuria. To avoid these injuries, the author administered 300 to 400 milligrams of bismuth during the first ten to fourteen days, and repeated the treatment after a fortnight's rest. Two such series were considered a course. After six weeks, the doses may be increased; but, in no case must one administer more than 800 milligrams of bismuth per series, as the by-effects then appear with almost mathematical certainty. However, no other signs of nephrosis appeared, and the cases of epitheluria usually cleared up within fourteen days.

Another reaction observed was stomatitis, but this was always mild and transient. Unfortunately, there appeared almost regularly on the gingiva of the lower incisors a faint bismuth-line, which generally disappeared in a short time. No gastric disturbances or exanthemas were noted.

The author is of the opinion that better results will be obtained by substituting bismuth in the place of mercury in all cases of primary syphilis where an abortive cure is aimed at by means of a combined arsphenamine-mercury therapy.

RESISTANCE

Opsonic index—keep it running high.
Let phagocytes numerically increase,
Resisting fatal germs till sickness cease;
And virulent diseases strong defy.
Our human energies are measured by
This index and provide us strength and pow'r
By keeping clean life's current, hour by hour,
Which doth the life with ample force supply.

Provided thus, man builds his being up,
Gives formidable resistance to disease,
Is given length of days by science's aid
And drinks life-joys from Hygeia's cup.
Thus knowledge has results that constant please,
And science by mankind should well be paid.

Jas. A. DeMoss.

Thayer, Kans.

Among the Books

BICKHAM: "OPERATIVE SURGERY"

Operative Surgery. Covering the Operative Technic involved in the Operations of General and Special Surgery. By Warren Stone Bickham. In six volumes. Vol. 1. Philadelphia and London: W. B. Saunders Co. $10 per Volume.

The Reviewer, who has before him four of the six volumes written by one single man, confesses that he is deeply impressed with the magnitude of the work; especially when it is considered that here is an encyclopedia on surgical operations which, in all probability, will exceed six thousand pages, to say nothing of a desk-index as a separate volume.

If such a book had been written in a European country, the medical press would have hailed it as an achievement of national importance. Here, in our benighted United States, we are too engrossed with our daily duties to notice when a man of science gives up, for years, everything that attracts and pleases the average man solely for the purpose of consecrating his energies to a task at once gigantic and humanitarian.

How many sleepless nights has Bickham toiled through? One can only guess. The author hints at the energy involved since forty-four artists, at periods ten at a time, were employed to produce the 6378 illustrations—a goodly number of which are in colors—which enhance the text.

The first volume deals with the preparation for operations, surgical anesthesia, conduction of operations and after-care of operated patients, as a special part.

We consider this part of tremendous importance.

While the author has actually only repeated what can be found in other textbooks, as far as the handling of the subjects are concerned, there are so many points of practical interest, all based on the author's personal experience, presented from various viewpoints, that the reader will miss much if he fails to read these initial chapters with great care.

The following four chapters deal with skin grafting, general principles of plastic surgery, dermoplastics, and transplanation of tissues and organs in general.

The chapters are excellent reviews of the subjects involved without burdening the reader with technical details; but, in the very next chapter entitled "The Usage of Hydrocarbon Prostheses," a subject much neglected by the average surgeon, the author delves into *medias res* and gives indications, materials used and the technics of paraffin injections in a brief manner, apparently very brief, but, on closer examination, just sufficient to convey to the reader all required information, without, at this time, considering the diverse regions in which this method of prosthesis is practicable.

Amputations, excisions and disarticulations with prosthesis conclude the volume.

The technics of these operations are not only well described, but the author mentions all known methods, so that the reader has at his elbow the technics and modifications of surgeons whose names are frequently encountered in the literature but whose particular methods are not generally known nor easily accessible.

As an illustration of how Bickham has planned this work, let us analyze a small section—that of excision of the elbow joint. The sub-heading states it is by posterior median incision—Langenbeck's operation. Position of the patient and surgeon, the landmarks, the incision, the operation proper, and special comment cautioning the reader about missteps and every certain technical hint not contained in the description of the operation; these are the subsections for one, comparatively minor operation. Often the author adds small subsections on after-treatment, best method and other method, mentioning the diverse operations graphically.

It can be readily seen that such an arrangement contains an item of inestimable value to such surgeons who have been unable to read up on all known methods. There, everything is at your elbow. As we shall review the other volumes month after month, we shall at this time make no further comment, except to advise every man who is interested in surgery to subscribe for the full edition without delay.

SLUDER: "TONSILLECTOMY"

Tonsillectomy. By Means of the Alveolar Eminence of the Mandible and a Guillotine. By Greenfield Sluder, M. D. Illustrated. St. Louis: C. W. Mosby Co.

Sluder is too well known as a throat surgeon to need any introduction to our readers. He claims, in this book, that he has been unable to describe his method satisfactorily before, as no one had been found before to illustrate his technic by successive steps in a satisfactory manner. Now he has found such an artist.

The little monograph is divided into seven chapters. The embryology, anatomy, physiology and pathology of the tonsil are presented very lucidly and as briefly as possibly.

The chapter on the indications for tonsillectomy contains many valuable hints, not easily found in contemporaneous literature.

Describing the operation of tonsillectomy and his own technic in two chapters, one can say that the author has maintained a dignified attitude in not boasting his method as the only road to salvation. The illustrations really leave nothing to be desired.

A brief and instructive chapter on adenoidectomy with direct vision, by Dr. S. D. Kelley, Jr., concludes the book, which we recommend to all interested in the treatment of tonsillitis and allied throat affections.

CRAIG: "DISEASES OF MIDDLE LIFE"

Diseases of Middle Life. The Prevention, Recognition and Treatment of the Morbid Processes of Special Significance in This Critical Life Period. Comprising 22 Original Articles by Various Eminent Authorities. Edited by Frank A. Craig, M. D. In Two Volumes. Illustrated. Philadelphia: F. A. Davis Company. 1924. Price $7.50 per volume.

It was to be anticipated that, with the specialization of pediatrics and geriatrics, that phase of life which is generally spoken of as "middle life" would come in for special study with reference to the recognition, prevention and treatment of the morbid processes in this critical life period.

Twenty-three authors of splendid reputation contribute twenty-two chapters, each a closed essay in itself.

Diet in Middle Life, Muscular Exercise in Middle Life, Occupation and Diseases of Middle Life, are the three initial articles which take up the diverse problems in a really masterly way, enabling the student to gain an insight in the measures he is to adopt if he is to be a successful adviser to the man of middle age, who desires to know how to conserve his strength for a useful life.

Chapters on diseases of the heart, arteries, kidney, respiratory tract, ear, nose and throat, stomach, intestines, liver, gall-bladder and pancreas, skin, blood and eye, are treated differently than can be found in even standard textbooks. The chapter by Friedenwald on diseases of the stomach is especially noteworthy, not only as a superb exposition of the many difficulties of a diagnostic character but as a philosophic essay which must be read in toto to be appreciated. No critic can describe sufficiently clearly how well the perplexities of this class of affections are held up to the light of scientific analysis. The other chapters are splendid, too, and if there be anything to be said against them it is that they have been almost too detailed for a virtually philosophic system of this kind.

We need but add that diabetes, gout, obesity, diseases of women and nervous and mental diseases, are also treated as separate chapters, and that each represents a small, complete monograph, bringing the reader such of the diseases and medical problems affecting patients of "advanced years" in a clear manner to serve as a useful and practical guide.

The book is a literary achievement of much originality.

CLARK: "APPLIED PHARMACOLOGY"

Applied Pharmacology. By A. J. Clark, M. C., Professor of Pharmacology in the University of London. Philadelphia: P. Blakiston's Son & Co. 1923. Price $4.00.

The author states that his purpose in this book is "to give an account of the direct scientific evidence for the therapeutic action of the more important drugs, and to demonstrate the importance of this knowledge in the clinical application of drugs. There are, at present, many reasons why medical students and others often fail to appreciate the connection between the science of pharmacology and the art of therapeutics. The principal aim of this book is to try and bridge this gap between prarmacology and therapeutics and to demonstrate as clearly as possible the connection between the two subjects."

The author succeeds in doing this to a very remarkable extent. He gives those facts that the physician, medical student or worker in

other fields related to pharamacology would be most apt to seek and which are often quite difficult to dig out of the mass of information given in more voluminous texts. He presents these facts with a freshness of style and freedom from unnecessary detail that is most enjoyable. For the person who desires a more complete discussion of any particular topic, a few references to more comprehensive works are given at the end of each chapter.

The scope of the work covered by the book is best set forth by a recital of the chapter headings. I. The Action of Disinfection. II. The Use of Disinfectants for Special Purposes. III. The Action of Mercury as an Internal Disinfectant. IV. The Action of Arsenic and Antimony as Internal Disinfectants. V. The Action of Quinine in Malaria. VI. The Action of Emetine and the Salicylates. VII. Anthelminthics. VIII. Alcohol. IX. Anesthetics. X. Depressants of the Central Nervous System. XI. Local Anesthetics. XII. The Action of Drugs upon Sympathetic and Parasympathetic Nerve Endings. XIII. XIV. & XV. The Pharmacology of the Alimentary Canal. XVI. The Pharmacology of the Heart. XVII. The Pharmacology of the Circulation. XVIII. The Pharmacology of Respiration. XIX. The Pharmacology of the Kidneys. XX. The Pharmacology of the Uterus. XXI. The Pharmacology of Temperature Regulation. XXII. The Vitamins. XXIII. The Pharmacological Action of Radiations. XXIV. The Pharmacology of the Endocrine Glands. XXV. Immunity Reactions. XXVI. The Pharmacological Action of the Products of Protein Breakdown. XXVII. The Physiological Standardization of Drugs.

Although the older remedies and theories have received very careful attention, the author seems to have been rather reluctant to discuss most of the more recent developments in therapeutics. The mystifying and much press-agented new German product, Bayer 205, does receive notice. However, no mention is made of the use of bismuth or sulpharsphenamine in syphilis, carbon tetrachloride as an anthelminthic, benzyl esters as antispasmodics, or of the new local anesthetic, butyn. It is hoped that these may be included in future editions along with a discussion of the still more recent introduction of ethylene as a general anesthetic and of insulin.

A troublesome problem in any work of this sort is nomenclature. This is especially true of a book which is read in countries other than that of its origin. In this particular case, American nomenclature is almost completely ignored. Procaine is mentioned as being the same as novocaine, but other American names (barbital for veronal; cinchophen for atophan; arsphenamine and neoarsphenamine for salvarsan and neosalvarsan, etc.) are not given. Acriflavine is discussed extensively, early in the book; but, in another chapter, trypaflavine is mentioned without a statement that it is the German name for acriflavine. These are perhaps rather unimportant omissions but they are sometimes quite annoying.

BERGER: "ORAL SURGERY"

The Principles and Technic of Oral Surgery. By Adolph Berger, D.D.S. Illustrated. Brooklyn: Dental Items of Interest Publishing Co. 1923.

A valuable treatise for the oral surgeon, consisting of 450 pages, splendidly illustrated with 355 engravings made from original drawings, radiographs and photographs.

Without any unnecessary preliminaries, the writer goes right into the subject at hand and, in a clear, concise, simple style, describes the principles and technic of the most important operations in oral surgery. The various operations are carefully described and illustrated by means of photographs and drawings. An unusual feature of many of the drawings is the carefully worked out detail of the immediate operative field surrounded by pencil-line sketches showing the relationship of the field to the general anatomy of the part.

This book had not been intended to be an inclusive or complete work on oral surgery; the author's aim having been to present "in a more assimilable form those minor and semi-major, more common conditions, together with systematized methods for their surgical relief. . . . I have omitted from this book the consideration of several lesions, such as cleft-palate and hair-lip, tri-facial neuralgia, disease of the salivary and other glands, partly because they are so completely and ably presented in other books and partly because their treatment requires distinct specialization and they are therefore of merely academic interest to the majority of men."

The chapters on the surgical treatment of periodontoclasia, the closing of acquired oral openings into the maxillary sinus, a consideration of bone repair and regeneration, impacted teeth, and several others, are especially worthy.

Current New Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE will gladly forward requests for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

H-105 Clinical Experience versus Test Tube Experiments. 16-page booklet by Battle & Co.

H-106 The Arrest of Tuberculosis. 16-page booklet by Burnham Soluble Iodine Co.

H-107 The Iodine Age. 16-page booklet by Burnham Soluble Iodine Co.

H-108 Orchitic Substance Concentrated, Cousineau. 20-page booklet by California Endocrine Foundation Laboratories.

H-109 Antitoxoid in Tuberculosis. 4-page folder by California Endocrine Foundation Laboratories.

H-110 Clinical Observations on Agomensin and Sistomensin. 12-page booklet by Ciba Company.

H-111 Dial. Nervous Insomnia and Its Medical Treatment. By Dr. M. Lesieur & Dr. A. Peuret. 6-page booklet by Ciba Company.

H-112 Electro-physiotherapeutic Treatment Outfits. Style "FO" Senior and Type "LO" Senior. 15-page booklet by H. G. Fischer & Co.

H-113 Electro-Therapeutic Combination. Portable Type "K". 8-page booklet by H. G. Fischer & Co.

4-114 Treatment Cabinet. Style "FO". 100-page booklet by H. G. Fischer & Co.

H-115 Hyperthyroidism by Dr. Henry R. Harrower. 18-page booklet by Harrower Laboratory, Inc.

H-116 Ovarian Dysfunction by Dr. Henry R. Harrower. 32-page booklet by Harrower Laboratory, Inc.

H-117 Reducing High Blood-Pressure by Dr. Henry R. Harrower. 22-page booklet by Harrower Laboratory, Inc.

H-118 Malted Milk in Nervous Disorders. 4-page folder by Horlick's Malted Milk Co.

H-119 Malted Milk for Colonic Alimentation. 4-page folder by Horlick's Malted Milk Co.

H-120 Air Cushion Pessary. 4-page folder by Huston Bros. Co.

H-121 Semi-Curette and Uterine Evacuator by Huston Bros. Co.

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